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Gypsy Completes 4,000-Barrel Well As Osage Sale Progresses

By J. B. Gambrell, Jr.

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Staff Special

PAWHUSKA, OKLA., Oct. 12

ABOUT the ordinary crowd was in Pawhuska this morning when Superintendent J. George Wright read the regulations governing the leasing of Osage Indian lands for oil. Several new wrinkles have been added since the last sale.

Practically half of the 236 tracts offered at this sale were homesteads that carry additional burden because of the necessity of securing the consent of the allottees before making locations and drilling.

Tract No. 1 was passed and the first tract to be bid on was tract No. 2, which was bought by Larkin and Reynolds, of Bartlesville, for $24,000. No. 3 was knocked down to the Oklahoma Central Oil Company and Chestnut & Smith interests, of Tulsa, for an even $100,000. The Margay Oil Corporation took No. 4 for $81,000, and several other tracts brought between $50,000 and $128,000, the top price of the morning session, which C. L. McCune paid for Tract 28.

At the supper recess 178 tracts had brought a total of $2,931,700, which clearly indicated that the total for this sale would be in the neighborhood of $3,500,000 and perhaps $4,000,000, due to the fact that the Gypsy Oil Company drilled in this afternoon a well making 170 barrels per hour in Sec. 35-23-7, which offsets Tract 6 on the west side, which is expected by many to bring one of the largest prices of the day.

Up to this time the largest price paid for any single tract is for the southeast quarter of Sec. 23-25-11, which brought $170,000, the Midland Oil Company, of Bartlesville, being the successful bidder. The next largest price was $161,000, paid by the Kewanee Oil & Gas Company, of Tulsa, for tract 154. This company also purchased several other tracts.

Tract 154 is on the lime development where Phillips Petroleum Company and Froszer and others have some nice wells. Tract 23 brought $18,000, J. R. Munce, trustee, taking down the tract. This marks the first purchase of the Arkansas Natural Gas, Benedum & Trees, interest in the Osage reservation. National Exploration Company, a subsidiary of the Union Oil Company of Delaware, which recently entered the Mid-Continent field thru the purchase of the Central Petroleum Company, has bought some half dozen odd tracts up to this time.

Some Salient Points Of Thirteenth Osage Sale

Little operators outdid big companies for choice leases, despite financial stringency.

Enthusiasm among bidders stirred by news of Gypsy Oil Company bringing in 4,000 barrel well while sale is going on. Well on tract adjoining piece offered.

Benedum & Trees interests make initial entry into Osage development.

Union Oil Company of Delaware, recent big entry into Mid-Continent thru purchase of Central Petroleum Company, large figure in buying.

While nearly all the major companies have representatives on hand, not all have been successful in bidding and will go home empty handed, as despite credit restrictions the little fellows seem to have the edge and are running the prices to heights above the big companies' limits. Other large purchasers at the sale have been C. L. McCune, Margay Oil Corporation, Kilgore Oil Company, C. B. Peters, and Kelley Oil Company.

The last previous sale of leases on the Indian lands, which was held May 18, was rather a slump from those preceding it.

Two factors were believed to be responsible for this, the first was uncertainty as to whether the Osage lessees would be successful in their efforts to obtain an extension of the life of the leases from the Interior Department at Washington, or whether the rights for which they had paid their good money would expire in 1931, thereby shortening the time during which it would be possible to realize on their investments.

The other factor was the tightness of money which was just beginning to be keenly felt in the oil fields due to the inauguration of the deflation policy by the Federal Reserve Board.

At the May 18 sale 31,783 acres were sold, bringing a total of $2,856,100, or an average of $89.86 per acre. The record for the sale was made by C. L. McCune, of Tulsa, when he bid in Tract 158, the southwest quarter of Sec. 6-21-12, for $316,000. The next highest price for which a tract was sold was $200,000 for Tract 102, the southwest quarter of Sec. 1-21-11, the Flesher Petroleum Company being the purchaser after a hot skirmish with the Phillips interests.

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Oil Industry Is Impervious To Reactionary Market, Says Requa

By Special Correspondent
NEW YORK, Oct. 6

MARK L. REQUA, vice president of the Sinclair Consolidated Oil Corporation, formerly director general of the oil division of the United States Fuel Administration, in discussing the effect of the present wave of price cutting and general readjustment upon the oil industry, had the following to say anent the question:

"In this period of business hesitation, industrial retrenchment and price cutting, considerable interest has been directed toward these industries thus far unaffected. The petroleum industry has been singularly free from such considerations because of its general stability and soundness. Confidence in some lines of industry has been shaken by the realization that demand is slackening and that large stocks are accumulating. Neither condition has been true of the oil industry for many years, nor is such a setting developing at the present time. While the production of crude petroleum, and, in consequence, the output of petroleum products, is vigorously on the increase, the demand for these commodities is advancing still more rapidly. No better proof of the truth of these statements can be adduced than the official figures of the U. S. Geological Survey. The following shows consumption of crude petroleum in the United States since 1914 compared with stocks of crude petroleum on hand, with a calculation showing the significance of the stocks in terms of the number of months of consumptive demand that these stocks would supply:

Year	Average Monthly Consump. Millions of Barrels	Stocks at End of Year Millions of Barrels	Months' Supply in Stock Months
1914	21.6	142	6.6
1915	22.8	164	7.2
1916	26.5	162	6.1
1917	31.4	146	4.7
1918	33.9	122	3.6
1919	35.0	192	3.7
1920	...	...	..
Months			
January	39.9	127	3.2
February	37.8	126	3.3
March	42.6	125	2.9
April	40.9	125	3.0
May	43.0	125	2.9
June	41.8	127	3.0
July	42.6	128	3.0

"It will be observed from the foregoing tabulation that stocks of crude petroleum present in the United States have gradually decreased since 1914 from over a six months' supply to approximately a three months' supply. It will be observed also that the stocks are showing a tendency to run slightly below a three months' supply during the second and third quarters of the present year. A second indication of the relation between demand and supply of crude petroleum is shown in a second tabulation which compares production of crude petroleum with the domestic consumption and gives the ratio obtaining between the two thus:

It is apparent in second table that in spite of a rapid increase in the domestic production of crude petroleum over the last few years, and even during the current months of the present year, domestic consumption of crude petroleum, which is equivalent to demand, has been increasing still more rapidly. The figures for 1920 indicate a greater degree of tightness between supply and demand than for any previous year, with the exception of 1918, which, owing to abnormal conditions of war requirements, was slightly greater.

Year	Average Monthly Production Millions of Barrels	Average Monthly Consump. Millions of Barrels	Ratio of Consump. Per Cent
1914	22.1	21.6	98
1915	23.4	22.8	98
1916	25.0	26.5	106
1917	27.8	31.4	113
1918	29.7	33.9	114
1919	31.5	35.0	111
1920	...	...	...
Months			
January	34.0	39.9	117
February	33.2	37.8	114
March	36.5	42.6	117
April	36.2	40.9	113
May	36.9	43.0	117
June	37.2	41.8	112
July	38.4	42.6	111

"The conclusion is inevitable from these two tables alone that the petroleum industry has not consciously or unconsciously run into a condition of over production, nor is there any evidence of an undue accumulation of stocks of raw material. On the contrary, production is lagging increasingly behind requirements, and the stocks of raw material on hand, in terms of the demand which they would satisfy, are steadily decreasing. No indications are to be found from the most authentic figures available that the petroleum industry will be forced to slow down either thru over-production on its part or from an over-accumulation of stocks."

Thirty Gondola Cars Daily Quota For Pipe

WASHINGTON, Oct. 12.—Thirty open-top cars daily may be used for transporting oil country steel from the Pittsburgh district to the various areas of production. Until midnight October 10, by ruling of the Interstate Commerce Commission, 60 cars daily were allowed to be loaded from the mills. A recent order of the commission to the effect that "coal cars" could be used for nothing but coal after October 10, has been modified as a result of the insistance of the oil producing industry. The modification of the order cuts in half the previous quota. R. L. Welch on behalf of the American Petroleum Institute has petitioned the commission to extend the original permit allowing 60 cars to be used for steel, but without result thus far.

By Special Correspondent

WASHINGTON, Oct. 12.—A reduction in the amount of tubular goods going into the oil fields began at midnight October 10. Another reduction will begin at midnight October 14. Each diminution was the result of a car service order issued by the Interstate Commerce Commission at the close of business on October 8, and promulgated among those who would be affected, the following day.

Primarily, the orders were not directed against the shipment of steel into the oil production territory. They were put out to increase the amount of coal hauled from the mines.

How much of a reduction of tubular goods shipment and how long it is to last cannot be said now. The commission has no desire to curtail the production of the oil, tho if possible it would distinguish between essential and non-essential use of gasoline and other petroleum products.

The first of the orders that went into effect cancelled all permits to use coal cars for loading with other than coal. The second required all railroads east of the eastern boundaries of Montana, Wyoming, Colorado and New Mexico to reserve, for hauling coal, all open-top cars, having sides of 38 inches or higher, until the further order of the commission.

All permits were cancelled because the commission believed some that were outstanding were issued improvidently and should not have been granted. The cancellation was in the nature of a move for a revision of the outstanding permits, so that a new start might be made.

Greatest harm will probably be done by the order, operative on October 15, which condemns all cars suitable for hauling coal to be used in that service.

The decision of the Interstate Commerce Commission, backed by practically every railroad traffic manager in the country, is that preference must be given to the coal traffic in the use of the open-top cars, with sides 38 inches or more in height.

The orders do not restrict the loading of cars having less than 38 inch sides. They do not deprive the oil industry of the 15,000 cars recently released from servitude to the coal carrying business, release of which was expected to be of great benefit to the oil industry. According to reports in the steel industry, the great piles of steel in ground storage at the various plants have been reduced to very small ones at most plants and entirely disappeared at all others.

Applications for permits to use coal cars for loading with steel for oil territories will be considered by a division of the Interstate Commerce Commission composed of Chairman Clark, Commissioners Aitchison and Potter. The first step to obtain a permit should be an application to the local agent of the originating line, made coincident with a forwarding of the application to the commission in Washington, setting forth the reasons for an exception being made. The steel man or oil well supply house should be able to show that there is some particular reason for making an exception.

The cancellation of the permits was ordered largely because local authorities and delivering lines of railroad have been abusing the permits. They have been obtaining coal cars for shipping road-building materials to communities that, according to the mayors and other officials, have been without coal. So far as known not one charge of that kind has been brought against a steel man or oil well supply company that has obtained coal cars for use in shipping steel for oil production or conservation purposes. But the oil industry must suffer for it any way.

Industry Still Split On Rate Increase After Conference

NEW YORK, Oct. 7

STRICT division into two groups, the pipe line refineries on the one hand and the Mid-Continent and other long-haul refiners on the other, was maintained at the meeting of representatives of the Western Petroleum Refiners' Association, the Independent Oil Men's Association, and the American Independent Petroleum Association held at the American Petroleum Institute here yesterday to discuss the freight advance.

The question was whether the oil industry would unite to fight thru the institute, for a flat increase in cents per hundred pounds as against the present percentage increase which puts the long haul refiner at a disadvantage as against the pipe line refiner with short hauls for his refined products.

Agreement was impossible.

F. W. Lehmann, Jr., secretary and general counsel of the Western Petroleum Refiners' Association, put forward the suggestion of a compromise arrangement, a percentage increase with a maximum of say 8½ cents per hundred pounds for the benefit of those refiners having the longest hauls and consequently the most oppressive increase in rates.

The pipe line refiners opposed any change in the rate increase method at this time and made the contention that the subject was not a proper one for the institute to interest itself in. The action of the meeting was to refer the whole matter back to the board of directors.

Mr. Lehman, in presenting the case of the western refiners, said:

"There is no question but that a percentage advance operates as a hardship which will result in a diminution of long-haul business, that of the western refineries. I do not think it is possible to state at this time exactly how great a diminution will result from a 35 per cent increase. I think it is possible to say definitely that 35 per cent will eliminate a material portion of long-haul business. Had the increase been a flat increase the commercial and competitive situation would not have changed as a result of the increase. The competitors competing in certain territory would continue to compete on the same terms if a flat increase were put in, as they had already enjoyed in their competition. Whereas, if the percentage increase goes in, it means that the person making a longer haul gets a bigger increase, therefore, the competitive conditions are somewhat changed. Frankly, most Mid-Continent refiners would prefer a flat increase. I think I can say we understand where some would object to a flat increase. Between the percentage increase and flat rate, there is a compromise. The percentage increase with a maximum; that is, where your rate is a comparatively low rate; make it take the percentage increase; where the percentage increase would make the rate too high, stop it at some point, say 8½ cents. Where the percentage increase puts on more than 8½ cents, instead of using percentage, use the 8½ cent maximum. If your rate is such there is more than 8½ cents on the percentage, you are affected to your own benefit. It occured to us if we could not get other refiners to consent to the flat increase, there could be no objection to percentage with reasonable maximum.

"The question at once arose as to whether the carrier would object to such an arrangement. The best way to ascertain that is from the carriers themselves. I belive that if we can show the carrier that a flat increase is resulting in a lessening of traffic, the carrier would be favorably disposed towards a percentage with a maximum. I believe it is fair, even at the present time, to ask the carriers to make some sacrifice to preserve the commercial conditions that have hitherto existed. I believe they would be reasonable. The way to determine the opinion of the carriers is to take the matter up with them. If we can take it up with the carriers with the full strength of the oil industry we can make a presentation which they are bound to give serious consideration. If we go to them somewhat disorganized, our presentation would not gain value

"We meet, then, with this situation. The people primarily interested are long-haul refiners whether situated in the Mid-Continent field or elsewhere; the least interested are the short-haul refiners. Where one element is vitally interested and another is only slightly interested, what is the attitude of this industry; do we fight our battles one by one or do we fight them somewhat united? Can one element of this industry call upon another element for support where the other element is not vitally interested? It has been my understanding that the great question before this industry has been the question of supply. I believe that has been our great worry in the past, supply rather than price. In fact, I understand there have been times when the price situation has been somewhat embarrassing. If supply is the great question of this industry, there is no question but what supply will be helped by continuation of the long-haul business.

"My idea of the function of the Institute is that it is to handle questions of importance to the industry. If I am wrong it can be so determined. In any event, we feel this question was important and we put it up to the Institute to see if we could get their assistance in a situation that is exceedingly harmful to long-haul refiners. That is the matter before us today as I see it.

Mr. Lehmann's contention was backed by Clifford Thorne, who represented the Texas Petroleum Refiners' Association as well as the two jobbers' associations. He said in part:

"Gentlemen, the Texas Petroleum Refiners' Association and the Shreveport Chamber of Commerce, representing the Shreveport interests as well as the American Independent Petroleum Association and Western Refiners' Association, are concerned. They have authorized this application to the Institute. The four states, Kansas, Oklahoma, Texas, and Louisiana, produce about 84 per cent of the oil produced east of the Rockies. From that territory the country east of the Rockies is dependent upon four-fifths of its oil.

"Ours, as we have so often stated, is the only industry where there are two methods of transportation competing with each other. Those two methods of transportation present an issue in the oil industry that is not presented in any other industry on this continent. When an advance in freight rates comes along upon a percentage basis it affects one branch of the industry vastly more than it affects the other. During the war I have a distinct recollection of a conference here in New York. At the beginning of the conference certain pipe line interests were exceedingly hostile to the idea of a flat advance. But after the conference had progressed during the course of the entire afternoon until midnight, the industry was able to get together. It was done on a broad scale and on broad grounds. There was a group of men there that saw something beyond their personal interests in holding the industry together. A flat advance would protect the existing relationships.

"After all, competitors in business are able to pass the advance on, whenever the advance hits each one alike. That is all that concerns the manufacturer or jobber primarily, to see that it hits each one alike. We agreed that time; every one in the group agreed to it. That was in the National Petroleum War Service Committee. When this advance came on, the people in the Mid-Continent field felt the same policy should be pursued. There is this feature that alters it to some extent, while the short haul would stand a few cents, when you double or treble that amount, the railroad would really come in competition with trucks; there is a limit beyond which the short haul rate cannot go.

"A compromise was suggested and I think that the people that I represent would reconcile themselves to that compromise if it is possible to succeed. The compromise is that which Mr. Lehmann suggested—a percentage advance, applied to traffic generally, with a maximum.

"I think the responsibility for perpetuating this situation will rest upon the shoulders of the people who force a division in the industry. I think where we come to you at probably the most critical time in the history of the industry, so far as the west is concerned, we are entitled to very serious consideration at your hands."

Following the foregoing statements made by Mr. Lehmann and Mr. Thorne, there was considerable discussion of the subject under consideration, and finally a

Week's Price Changes

Effective October 11 the Joseph Seep Agency divided Somerset (Kentucky), crude into two grades, posting an advance of 25 cents a barrel on Somerset light, 38 gravity and above, making the posted price $4.50 on this grade. The agency also marked up the price of Cabell crude from $4.17 to $4.46 a barrel.

motion prevailed that those present in the room who had not expressed themselves informally as being in favor of the proposition brought forward by Mr. Lehmann and Mr. Thorne should withdraw from the room for conference. The motion carried, and at the conclusion of this conference the gentlemen who composed it filed the following statement:

Against Flat Increase

"While it is the unanimous opinion of the following companies, controlling, handling and distributing, we believe, the preponderance of the petroleum tonnage of the United States, represented by:

"Standard Oil Company of Indiana —R. H. McElroy.

"The Texas Company—Wm. Jervis.

"Standard Oil Company of Ohio—W. A. Wareing.

"The Interocean Oil Company—E. A. Hall.

"Tide Water Oil Company—E. H. Shelley.

"Mexican Petroleum Corporation—J. S. Wood.

"Standard Oil Company of New Jersey, Geo. H. Tower.

"Gulf Refining Company—C. B. Ellis.

"Standard Oil Company of New York—L. H. Benner.

"The Atlantic Refining Company—E. H. Porter.

"Sun Company—B. C. McPherson.

"Prudential Oil Corporation—H. B. Cole.

That the American Petroleum Institute is not the proper forum for the discussion of any proposition involving freight rate adjustments any more than it would be for the discussion of prices of oil, of which the freight rate is an integral part, yet as it appears that this is not the unanimous opinion of all the members of the committee appointed by the secretary of the American Petroleum Institute we feel called upon to submit the following:

"The concluding paragraph of the section devoted to petroleum and its products, in the decision of the Interstate Commerce Commission in Ex Parte 74, reads:

> 'It is concluded that no exception to the general percentage increases herein approved need at this time be made upon petroleum or its products. As has been observed in connection with other situations, the carriers should give careful consideration to the effect of the percentage increases approved on petroleum and, if necessity arises, should arrange for such modifications as the situation may seem to warrant.'

"This apparently has been construed by some members of the petroleum industry as justifying an immediate demand upon the rail carriers for a modification of the rate adjustment resulting from the decision in Ex Parte 74. We do not concur in any such interpretation; to the contrary, what the commission unquestionably had in mind was that each industry give the advanced rate adjustment an earnest and substantial trial before seeking changes.

"The gasoline tank wagon markets, for example, do not sustain the theory that any change from the straight percentage method should be made; but, to the contrary, emphasize the fact that the percentage method should be continued, because if a flat increase or percentage with a fixed maximum were employed it would increase the net yield to Mid-Continent refiners which is even now greater at markets more distant than Chicago or St. Louis, which points, distance considered, are more logical markets for the Mid-Continent refiners.

"The use of a flat or specific figure to increase freight rates, instead of a straight percentage figure, violates an economic law, in that it imposes upon short hauls the same amount applied to long hauls, regardless of the lesser service involved in the short haul. And it follows that communities in proximity to production are deprived to some extent of their natural advantage. For what? Not for the country at large, so far as the petroleum industry is concerned, but for the benefit of the smaller part of that industry. We are extremely doubtful if a rate adjustment so conceived would stand before the courts."

At the conclusion of the reading of the foregoing memorandum, it was moved, seconded and passed unanimously that the whole matter should be referred to the board of directors of the American Petroleum Institute for such action as the board might see fit to take, with the understanding that the members of the conference not concurring with the foregoing prepare and file a report setting out their views.

Thereupon

Messrs. B. J. Burchett, Shaffer Oil & Refining Company; Henry Hauseman, Pure Oil Company; A. C. Holmes, Empire Refineries; F. W. Lehmann, Jr., Western Petroleum Association; W. H. Reed, Union Petroleum Company and Sinclair Refining Company; J. D. Reynolds, American Independent Petroleum Association; H. W. Roe, Cosden & Company; Clifford Thorne, Western Petroleum Refiners' Association, American Independent Petroleum Association, Texas Petroleum Refiners' Association; Charles Van Overbeke, Standard Oil Company of Kentucky; H. M. Waybright, Warren Oil Company of Pennsylvania, withdrew for conference, and today the following report was filed:

For Flat Increase

"Is the Institute a proper forum for the discussion of any proposition involving freight rate adjustments?

"But one argument is made against the participation of the Institute. Rates affect prices, and therefore the Institute can no more discuss rates than it can discuss prices. If this be good logic, the Institute must cease its participation in the practical and material problems of our industry.

"Taxes, foreign relations, tank car movement, loading regulations, state inspections, refining methods, government investigations, all affect prices. Any matter which affects the cost, the convenience, or even the pleasure of doing business enters into the prices in that business. Must the Institute confine itself to questions of pure theory, morals and ethics, avoiding consideration of all things practical and material? The Institute should have and has its spiritual side, but its past has in no way shown that it was unfit to cope with the practical questions of a great industry.

"This is not the first rate question that has arisen. It will not be the last. We should have a table around which we may gather to consider and discuss, to exchange views and supplement information in an effort to reach the best conclusions our united wisdom permits. We must have an organization which will direct our efforts in case such a conclusion is finally reached. This is true whether the question be one of railroad movement or railroad rates. This is true of any important question.

"Should the Institute make an effort to modify the recently imposed percentage advance in freight rates to a percentage advance with a maximum of approximately eight and one-half cents?

"A percentage with a maximum violates no economic law. It conforms with the carriers' first principle of rate making: Charge what the traffic will bear. Our proposal is practical, not theoretical. If the theory of it be carried to absurd lengths it might produce absurd results. Under our proposal rates will increase as the distance will increase, but we suggest that the rate increase at a lesser speed. This is one of the commonest principles of rate making, perhaps the most common.

"Three courses are open to the pipe line and water transportation companies.

"1. They can minimize this disadvantage by having the advance take the form of a flat advance. This would entail a heavy increase in their short haul rates. No such consideration is asked. No such unselfish sacrifice is expected.

"2. They can seek to aggravate this disadvantage by insisting on the plain percentage increase. By so doing they will reap for themselves no benefit save only that which incidentally results from any misfortune to an associate. Our associates have not the general malevolence essential to the pursuit of such policy.

"3. They can limit this disadvantage by adopting the percentage with a maximum. This will require no sacrifice and by hurting none and helping some must result in a general benefit to the whole industry."

Mr. Welch, who presided at the meeting said: "The foregoing record will at once be transmitted to the members of the board of directors of the American Petroleum Institute, but it is not probable that any action will be taken in relation to it until the annual meeting of the institute, to be held at Washington on November 17, 18 and 19.

"Of course the primary question which will come before the board of directors will be whether conferences of the character of the foregoing are properly within the scope of the activities of the American Petroleum Institute. A reading of the circulars heretofore issued will indicate that I took the position that the holding of the conferences was properly within the scope of the activities of the American Petroleum Institute, and I have had no reason for changing my point of view. However, I am of the opinion that up to this time at least a majority of the members of the board of directors believe that my position is wrong, and that the foregoing conference would not have been held but for the fact that I announced without any action on the part of the board, that the conference would be held. If I thought it were possible to get practically the entire membership of the board of directors together, I would ask them to meet at once. The whole issue of the proper scope of the Institutes' activities in matters of this sort will no doubt be determined by the board at the annual meeting in Washington.

"So far as the rate matter itself is concerned, I think that all will agree that the Institute cannot properly take any position on the subject unless in some manner substantial unanimity is worked out in the industry. The most the institute can possibly do is to afford an opportunity for all concerned to discuss the issues involved, and if an agreement is reached then to use its best endeavor to carry out that agreement."

Division, Not Multiplication, Is Reds' Theory Of Winning Wealth

By R. L. Welch

THE oil industry is passing thru successfully the greatest crisis in its history, and some analysis of that crisis, I think, will be interesting to you gentlemen as oil and gas men.

About a year ago a great increase in consumption—a tidal wave in consumption—struck the oil business. The oil industry arose to the emergency, and it got the oil. An unprecedented demand for oil has been met by an unprecedented supply.

Let me refresh you memories a little. Following the war and between the first of January and the first of August, 1919, stocks of oil in this country, crude oil and refined products, were increasing at the rate of 25,000,000 barrels per annum.

The Ranger field was developing, an increase in production seemed probable.

It was quite generally the opinion that if stocks continued to increase, the price of crude oil might decline. This, of course, was conditioned upon the disproportion between production and consumption being sufficient to enable the larger companies to fill the storage which was depleted during the war.

However, about the first of August, 1919, something happened. The consumption of oil in this country, indeed, put on seven league boots.

During the first half of the year the domestic production of crude oil had been running at the rate of 985,000 barrels per day. During the same period consumption had been running at the rate of 945,000 barrels per day, or an excess of production over consumption of domestic oil of 40,000 barrels per day.

The Diminishing Supply

Note what happened commencing in August: The daily average consumption during the balance of the year was:

August	1,209,290 barrels
September	1,100,100 barrels
October	1,128,677 barrels
November	1,199,133 barrels
December	1,131,838 barrels

These increases in consumption produced the increases in the price of crude oil. Those increases occurred very naturally, in view of the diminishing supply. During the period stocks of crude and refined products decreased at the rate of about 34 millions of barrels per annum. In other words, there was a shortage of about 92,000 barrels of oil per day.

Had there been no reserve stocks of oil in the country, it is obvious that it would have been necessary to cut down consumption approximately 9 per cent. But the reserve stocks spoken of are so low as to give just cause for alarm when they are being drawn upon at all for any prolonged period. There was every reason for assuming that consumption would continue to increase.

On the first of January, 1919, there were 7,500,000 automobiles in this country. A total of 10,000,000 registrations was predicted by the National Automobile Chamber of Commerce for 1920.

Assuming a consumption of 550 gallons of gasoline per year per car, which is a reasonably close approximation of what an automobile uses, it was apparent that a production and importation of oil at the rate of approximately 600 millions of barrels per annum would be necessary by the end of the year 1920.

Any man who would actually have predicted that we would either need that much oil, or that we could produce it if we needed it, would have produced at least a few smiles of derision.

Think of production at the rate of 600 millions of barrels per annum, in view of the fact that in 1919 we had produced only 377 millions of barrels of oil in America and had imported from Mexico only 52 millions of barrels, or a total of 429 millions of barrels. Where was the oil to come from toward the end of 1920 to supply the prospective deficiency of 171 millions of barrels? Where, indeed, was it to come from, in view of the fact that during a period of years no such astounding increase in production had ever been heard of?

In 1912 domestic production increased 2 millions of barrels over the previous year.

In 1913, it increased 26,000,000 barrels.

In 1914, 17,000,000 barrels.

In 1915, 16,000,000 barrels.

In 1917, 35,000,000 barrels.

In 1918, 20,000,000 barrels.

In 1919, 22,000,000 barrels.

Disappointment at Ranger

Furthermore, the Ranger field was proving a disappointment. The wave of relief which had come over the industry when that field came in was followed by a feeling of serious concern from the knowledge that the pipe line capacity of 240,000 barrels per day built in that field was greatly in excess of the field's production, which was 170,000 marrels per day at its highest; that production dropped to 75,000 barrels per day.

The developing situation was indeed an ideal one for pessimism. Furthermore, it seemed to be admirably fitted for experimentation on the part of those economists and politicians who believe that when things are going wrong that they can be "fixed" by regulation, or by control.

Here, indeed, was a fine chance to pull an industry apart—for allocation, for control.

In the light of that which in fact happened, would it not be wise to pause and ask the question: What would have happened if the law of supply and demand had not been permitted to work out its free course? Is it not pertinent to ask whether production would not have been stifled under the system of control, no matter how wise? Do not the actual facts lead us inevitably to the conclusion that competition and the law of supply and demand are our greatest economic safeguards?

Did we get the oil? Did the consumption increase as predicted? The shortest answer to that question is to state the pres-

The New Economic Theory and Crude Oil

"EQUITABLE Division of existing commodities—the substitution of fractions of what now exists for that which could be produced as a means of satisfying the world's needs—the cry of "wolf, wolf," by the syndicalists and the rest of proponents of a made-over social scheme, whenever an individual engaged in competitive effort raises his head—

¶These were discussed by R. L. Welch, general secretary and counsel of the American Petroleum Institute, before the second annual convention of the Ohio Gas & Oil Men's Association held recently in Columbus.

¶Mr. Welch cites one of the greatest known instances of the "constitutionality" of the law of supply and demand—the way the petroleum industry rose to the unprecedented demand for oil in 1920. His brief analysis of the doctrines of Lenine and his crowd is better reading than most of the political documents on the subject, thus far written.

ent situation. In July of this year the oil and gas men of America—such live men as you are here—went out and got 1,239,000 barrels of oil per day, or at the annual rate of 453,000,000 barrels. How is that for the law of supply and demand? You not only got the oil in America to meet this enormous demand, but during the month of July oil men went to Mexico under free competitive conditions and imported oil into America at the rate of 100,000,000 barrels per annum, or a grand total of 553,000,000 barrels per annum. Who needs to defend the law of supply and demand in the face of such a record as that?

In August of this year the domestic production undoubtedly was at a rate in the neighborhood of 450,000,000 barrels per annum. The latest statistics from Mexico make it perfectly safe to say that we imported oil from Mexico at the rate of 125,000,000 barrels per annum. Oil produced and imported at the rate of 575,000,000 barrels per annum!

Who Met the Crisis?

Gentlemen, in the midst of so much clamor for regulation of business; in the midst of so much effort to try to make something out of nothing; in the midst of so many questions of whether the old law of supply and demand under competition is sufficient for human needs, it pays people to sit down and analyze these figures. How was it done?

In 1918, 267 refineries in this country, with a capacity of 1,118,000 barrels per day, were competing for crude oil.

In 1919, 289 refineries, with a capacity of 1,295,000 barrels per day. The first of June of this year these refineries numbered 307, and their capacities were 1,601,295 barrels per day.

In 1911 the Standard group controlled 80 per cent of the capacities of these refineries. In 1915, 60 per cent. In 1919 they controlled 49 per cent of the capacities of these refineries. Who are the producers? Who owns the oil of the United States? The largest group—the Standard group—owns only 17 per cent in volume of the oil of the United States and 13.95 per cent in the value of that oil.

Competition, in my judgment, is the world's greatest economic safeguard because competition in reality is a struggle to produce.

Production feeds, clothes, warms and transports. It is production which stands between us and starvation; and any system of society which brings out the greatest amount of raw material, whether it be natural gas or oil, or any other raw material, for human needs, is that system of society which keeps men the farthest possible distance from starvation.

Need for Competition

Competition too often is viewed as a selfish struggle to divide, to make a profit, to sell something. True, the thing produced must be sold, and true, producers will compete with each other to sell. But how can we sell that which is not produced, and how can anything be produced to its maximum quantity unless the entire human race is struggling to get that article as oil men struggle to bring from the bowels of the earth the petroleum for the world's needs?

The world is full of social and economic vagaries, and most of them are founded upon the assumption that by some economic hocus pocus the human race can have food, clothing, fuel and transportation by merely dividing up "more equitably" what we have and then things will take care of themselves. What if we had divided up "more equitably" in 1920 the 377,000,000 barrels of oil?

When the economic fakir pictures the plutocrat living with his shears by the simple device of clipping coupons—and you live that way, according to his point of view—the inevitable tendency in some minds is to believe that if we could simply divide up the stocks and bonds and increase the number of shares, everybody could bask at Palm Beach in the winter and in the Canadian Rockies in summer.

What a beautiful picture! The entire human race migrating from place to place like the birds, with no impedimenta except scissors. The great trouble about this picture of joy is that whenever any Trotzky or Lenine attempts to make it a reality, he finds it necessary to take all the ploughshares and beat them into swords—not scissors—and the farm and factories, the railroads and transportation systems become battlefields, not with nature to produce, but for men to spill out their blood fighting each other.

What commoner picture do the adherents of this beautiful economic dream paint than of the gardener who grows one great American beauty by pinching off the little buds, as though men rose to economic affluence by pinching out the existence of their fellow-men. It is like saying that one farmer cannot produce corn and hogs, or that one oil man cannot produce oil and gas without ruining his next-door neighbor who also produces oil and gas.

To realize a perfectly beatific state of society let both farmers cease to raise corn and hogs, and both oil and gas producers cease to produce oil and gas, and then equitably divide between them the economic vacuum thus created.

Modern Economic Theory

What flower garden contains more beauties (not American, thank God) than that in Russia, where the heads of the producers of Russia are flipped off with abandon in order that a minority may stifle production wherever their doctrine exists that production consists in division rather than in multiplication. It remains for modern economists to discover that he who said that the man who made two grains of wheat grow where only one grew before was an economic chump, who ought to have known that the equitable division of the single grain would have filled the empty stomachs of the world.

Life without work is our dearest hope in our weakest moments. When a single individual has such aspirations permanently, his wife usually takes in washing. And at the weakest moment in the world's history, after the most devastating war in history, is it at all surprising that in one section of the world where the abandoned farms produce nothing for the windmills and factories, where nobody has car fare to ride on the broken-down transportation systems—is it surprising that the chief tramps of the world should shake their bloody locks and say to civilization: "Come, let us all be tramps together? Let those who cannot qualify as tramps live as ordinary murderers, and sit among the mighty when the economic rag-tag and bob-tail of the world convene, and convince Moses that the sweat of one's brow and his life have no relationship. Moses was one of those old fogy reactionaries who didn't know that blood gives men easier life than sweat."

The pride of America is that she has in her industrial, political and economic development been the very reverse of all this economic claptrap. What more natural in Russia than that men who have never known liberty, who have always known chains, should consult the nearest economic specialist in balls and chains, and forge them on themselves, but with new names?

What more natural in America than that the race which sprang from freedom, which established its own freedom, which guaranteed that freedom by a constitution—the greatest bulwark of freedom in the world—what more natural than that with such free men production should be at the maximum, and what more natural than that our economic contests should be located in nearer proximity to the meat houses of the country than they are to the hanging grounds and the cemeteries? We know that our battles are always over something.

The American Plan

It is a cause of congratulation, indeed, that the spirit of America, whether one looks to capital or labor, has recognized that liberty to compete, liberty to produce, liberty to work where one pleases and at what he pleases, is a heritage for which the blood of patriots was spilled—and not spilled in vain. The American people will make short work of those who try to teach that for a thousand years liberty in its slow development has been merely the economic stifling of the race.

What a picture—a man in rags, with his bony toes peering thru his leatherless shoes, the sides of his stomach flapping together like loose sails in a gale—what a picture for him with a squeaky voice to emit from his emaciated cavern which never knew the joys of a porterhouse steak, to say to the well-fed, well-housed and liberty-loving American people: "Be like me." No wonder we prefer to worry along with our movies and our flivvers. And no wonder that we do not propose to give up competition and the law of supply and demand without a fight.

Navy Is Offered Oil By Only 3 Companies

By Special Correspondent

LOS ANGELES, Oct. 6. — Only three companies have submitted formal bids to furnish California fuel oil to the navy to the amount of 65 per cent of the needs of the Pacific fleet. While they submitted no formal bids the Associated and General Petroleum have proclaimed in the past their readiness to accommodate the navy for their assigned quotas—Associated, 25 per cent; General Petroleum, 10 per cent.

The clash, however, seems likely to come over the price, the same old bone of contention that has kept the navy and the oil companies at swords' point since July, 1917. The Standard has offered its customary quota of 30 per cent at $2 at San Francisco Bay and Los Angeles (San Pedro) harbor, $2.40 at Seattle and Portland, $2.30 Eureka and $2.60 Honolulu—the same as now. The Union wants $2.10 at Oleum (San Francisco Bay) and San Pedro; $2.50 at Portland and Seattle, $2 at Port San Luis, and $2.75 at Honolulu. Its quota is 25 per cent.

The Shell Company has offered 10 per cent of naval demands, delivery at Martinez on San Francisco Bay only, at $2.35 per barrel. This is the price which the Shell charges all commercial customers.

Last Minute News From Oil Fields

Gets 425-Barrel Well In Cabin Creek Pool

Staff Special

COLUMBUS, Oct. 12. — Pure Oil Company got another good producer in the Cabin Creek district in its No. 205, Williams coal tract, Boone county, W. Va., good for 425 barrels after a shot. The Berea sand was found at 3,004 to 3,048 feet Friday night, and the hole filled up 2,000 feet with oil. After the shot on Saturday the twenty-four-hour gauge showed 425 barrels, and in the second twenty-four hours the well made 347 barrels. The well is in advance of development, and there is an interval of two miles between it and production of the Pure Oil Company on the Lafollette tract to the west. Illustration of the staying qualities of this production is found in No. 201, one location away from the new well, which came in in August for 250 barrels and still is making 175 barrels.

Big Sale Of Crude By Simms Reported

Staff Special

TULSA, Oct. 12.—A wire from a New York Stock Exchange house states that the Simms Petroleum Company has sold 500,000 barrels of Homer crude at $3.45 a barrel, total price, $1,725,000. This is a 20 cent premium over price of Homer crude.

Pure Oil Pipe Line Runs

OIL CITY, Oct. 12.—The report of the Pure Oil Pipe Line Company for September, just given out, follows, in barrels:

Runs	213,177.56
Deliveries	121,152.45
Stocks	426,046.43

Monarch, Gulf, Humble In West Columbia Pay

Staff Special

HOUSTON, Oct. 12.—Monarch Oil & Refining Company's Stribling well, at West Columbia, came in October 11 making 1,800 barrels of fluid, 52 per cent b. s. and 8 per cent water, or 720 barrels net oil at 3,318 feet.

Gulf Production Company's Masterson, offsetting Monarch on the south, was brought back producing again on Monday afternoon. It is estimated to be making approximately 4,000 barrels of fluid, 10 per cent water and b. s. after casing off at 3,310 feet.

Humble Oil & Refining Company's Robertson, two locations west of the Gulf well which, on October 8 had gauged 11,140 barrels choked down, was still good for roundly 9,500 barrels of fluid. Humble's well, which was drilled 25 feet in sand found at 3,265 feet, is producing from what is commonly called the "upper pay," whereas the others were drilled into the lower pay. The two pays are separated by a foot or two of Gumbo, and in the so-called north field, where these wells are a quarter of a mile beyond The Texas Company's Abrams, the other pay has shown no salt water.

The Texas Company's well is producing from 2,785 feet total depth.

Mexican Company's Head In New York

By Special Correspondent

TAMPICO, MEXICO, Oct. 7.—M. N. Penshat, president of the Norman Petroleum Company, has gone to New York to complete final details for the pipe lines which the company will build from Zacamixtle and Los Naranjos to Port Lobos.

The Norman Mexican company is said to have acquired several valuable leases in proven pools and several large holdings in what are expected to be future pools. The company also owns acreage in the pool where light oil is claimed to have been found last week at Mier.

Division Of Somerset Interpreted Favorably

HOUSTON, Oct. 12.—Southwestern oil interests conversant with eastern crude oil situation were interested in announcement from Pittsburgh of advance in Sabell crude from $4.17 to $4.46, pointing out that the entire production of the field had been contracted for five years to Pure Oil Company less than a year ago by Buckeye Pipe Line. The Pure Oil Company to make the market and the Buckeye to post it. Division of Somerset into light and heavy grades with 38 gravity marking the distinguishing point between $4.25 and $4.50 posted price was regarded as indicating firmness of light oil prices generally, altho the Somerset change was otherwise considered responsible to local adjustment.

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Salt Water Handicaps Arkansas Development

HOUSTON, Oct. 12. — A damper has been put on south Arkansas operations by failures and salt water showings recently reported from both Ouachita and Union counties. In Ouachita county where the original Lester Haltom well was taken over from S. S. Hunter by the Standard Oil Company of Louisiana, being completed as a 28-barrel pumper, No. 2 test, in Sec. 18-15-18, found salt water at 2,416 feet and is drilling deeper. The original well was completed five feet in the pay at 2,129 feet.

Rebel Oakes Oil Company's Cook test, in Sec. 3-15-17, was abandoned after getting salt water at 2,400 feet. S. S. Hunter's Norman test, in Sec. 20-15-18, was a salt water abandonment at 2,675 feet.

In Union county, where Constantin Refining Company's Hill gasser was choked off after running wild for weeks, in Sec. 1-18-15, the well is now good for 6,000,000 cubic feet of gas under control, 100 barrels of salt water and 10 barrels of badly cut oil, at 2,240 feet. Forest Oil Company's Mayfield, in Sec. 21-18-17, had salt water at 2,147 feet and is drilling at 2,230 feet. Walker et al, drilling the Flournoy test, in Sec. 5-17-17, is waiting on orders, after getting salt water at 2,548 feet.

2,000-Bbl. Homer Well

HOUSTON, Oct. 12.—Standard Oil Company of Louisiana Shaw-Palmer 24 in Homer, Louisiana, pool is a 2,000-barrel completion at 2,038 feet.

Merryman Wildcat Finds Sand At 1552 Ft.

TULSA, Oct. 12.—The Merryman test in the center of the northwest quarter of Sec. 28-2N-9W, one and one-half miles northeast of the Gladys Belle Oil Company wildcat in the southwest corner of the northwest of Sec. 32-2N-9W, which opened a field 12 miles east of Lawton two months ago, has found sand at 1,552 feet with good showing of oil and is preparing to drill in.

Draw Belle Oil Company's No. 1, northwest corner Sec. 5-1N-9W, a half mile south of Gladys Belle, has not drilled in, but is showing good on top sand top at 1,505 feet.

Wilcox has deepened No. 4 Stepheney farm, southwest quarter Sec. 24-15-10, west of Beggs in Creek county, to five feet in sand and increased production to 2,400 barrels. Previous production was 1,800 barrels at two and one-half feet in.

Leading Mid-Continent Producers Celebrate Drake Day At Tulsa

By H. L. Wood

TULSA, Oct. 7.—The eighth annual meeting of the Drake Memorial Association was held in Tulsa October 4, as a postponement from the anniversary date of August 27.

The formal session began Monday afternoon in Convention hall, attended by a loyal gathering of a few old and new members from Tulsa, L. B. Carter, J. W. Caldwell and F. B. Rowland, of Titusville, being the lone strangers in a strange land.

President W. H. Hoffman reviewed the progress during his eight years of presidency, reciting his failure year after year to secure sufficient financial assistance from well-to-do oil producers, refiners and marketers of Pennsylvania, and appealed to western oil men to help place the association on a permanent financial foundation.

J. E. Huff and J. H. Markham, Jr., organized themselves into a committee of arrangements, entertainment and reception several days before the meeting; they secured Convention hall, the Tulsa band, arranged for a dinner at the Country Club, and staged the affair splendidly in every detail. Mr. Huff, acting as pinch hitter, got all the old-timers around and some of them on the stage.

Rev. Harold G. Cooke—who is a regular fellow—opened with prayer. Mayor T. D. Evans and C. F. Hopkins for the Chamber of Commerce welcomed the visitors. David F. Connolly responded to "Edwin L. Drake, Father of the Oil Industry," and N. V. V. Franchot briefly reviewed the progress of the industry, both being early in the pioneer work in Pennsylvania. D. W. Moffitt, of Cosden & Company, responding for the refining branch of the industry, drew a wonderful picture of the miraculous results flowing from God's infinite wisdom in the affairs of men and the selection of Drake to illumine the world with the fire of petroleum. It was a classic in inspirational force and brevity.

Judge J. J. Shea urged oil operators everywhere to join the association and make it representative of the great industry that contributes so much to the needs and luxuries of the inhabitants of the earth. John Griffin, Clint Moore, J. L. McMahon, of Bartlesville; Mike Winter, of Independence; Thomas King, of Muskogee, were on the speakers' platform, and Steve Frazer, of Sedan, Kans., was an enthusiastic attendant.

There was nothing wrong with the afternoon meeting in Convention hall, but the fruition of President Hoffman's long-deferred hopes and ambitions came at the Country Club dinner after fried chicken and the accompanying courses had warmed the cockles of the hearts of the hundred pioneers who were on Oil creek as soon after the Drake well was completed as they could get there and have followed the business to Oklahoma.

Judge Shea was at the head of the table as toastmaster, and 'Gene Huff was at the other end as utility fielder and suggester. After responses to Toastmaster Shea's invitations had been made by Van Franchot, Clint Moore, W. G. Skelly, Reverend Cooke, Luke Carter, N. K. Moody, 'Gene Huff, John Markham, H. C. Ziegler, President Hoffman and Secretary Bell, an executive committee numbering twenty-two members was elected to serve three years.

Eleven members are from the Mid-Continent fields and eleven members from the eastern fields. Following are the names:

West of Mississippi—Judge J. J. Shea, chairman; Glenn T. Braden, W. G. Skelly, Clint Moore, Dana H. Kelsey, J. H. Markham, Jr., E. Roger Kemp, E. R. Perry, J. E. Huff, E. W. Sinclair, N. V. V. Franchot, Tulsa; N. K. Moody, Independence, Kans.

East of Mississippi—L. E. Mallory, Homer Barcroft, Earl Emery, Bradford, Pa.; Marshall Parshal, Warren, Pa.; F. A. Leovy, Gulf Oil Corporation, Pittsburgh; Robert Benson, Tide Water Oil Company, New York; L. B. Carter, J. W. Caldwell, Titusville, Pa.; William Stewart, producer, Muncie, Ind.

The executive committee was granted plenary powers by the members of the association and will organize and formulate the necessary details to set in motion the machinery required to finance the association successfully and as quickly as possible for the accomplishment of its purposes, one of which is to build and maintain a home for superannuated workers in the petroleum industry.

Export Movement From Gulf Ports Shows Continued Drop In September

Staff Special

HOUSTON, Oct. 10. — Export movement of refined oils from the Texas Company, at Port Arthur; the Gulf Refining Company, at Port Arthur, and the Standard Oil Company of Louisiana, at Baton Rouge, totaled for September 788,602 barrels, as compared with 1,225,000 barrels in August, according to complete figures on these companies' shipments received at the Houston office of **National Petroleum News.**

The same three companies moved, in coastwise shipments, in September, 2,240,362 barrels of refined products as compared with 1,979,158 barrels in August.

Figures showed the Export Oil Corporation with a station at Avondale, La., to have sent out a total of 164,680 barrels, divided in gallons as follows: Gasoline 3,951,912 gallons; kerosene, 1,781,560 gallons; fuel oil, 1,037,310 gallons; lubricants, 145,800 gallons.

Union Petroleum Company exported 106,180 barrels from Westwego in September, comparing with 107,300 barrels in August. New Orleans Refining Company with 3,321,102 gallons of kerosene, one full cargo of gasoline and 60,000 tons of fuel oil in September, compared with less than 250,000 barrels refined oil in August, exact figures not being available.

Export crude shipments, amounting to 55,002, from the Standard at Baton Rouge, and 3,486 barrels from the Texas Company at Port Arthur, totaled 58,488 barrels. This compared with 156,502 barrels by the same two companies in August. The Sun Company's September shipments of 248,076 barrels in coastwise movement compared with 148,598 barrels in August.

Aside from the Magnolia Petroleum Company, whose tanker shipments are included in coastwise figures for the reason that this company makes no division between domestic and foreign movement in its reports, the Humble Oil & Refining Company is the principal other shipper of crude in ocean going tankers. The Humble's total September movement of 856,694 barrels, all coastwise, compared with 1,803,319 barrels in August and 1,690,005 barrels in July. The September movement consisted of 411,973 barrels of Ranger crude as against 688,374 barrels in August, and 444,721 barrels of West Columbia crude as compared with 539,367 barrels in August.

Gulf Coast Water Shipments, September Compared With August

(All figures in barrels of 42 gallons)

Company—Port	Coastwise Refined August	Coastwise Refined September	Export Refined August	Export Refined September
Standard Oil Co. of La., Baton Rouge	208,504.00	306,693.00	203,551.00	243,603.00
The Texas Co., Port Arthur	762,970.00	855,092.00	502,253.00	332,542.00
Gulf Refining Co., Port Arthur	1,007,684.43	1,078,577.34	519,566.57	212,557.95
Magnolia Petroleum Co., Beaumont	1,326,552.23	790,764.00 (x)	.....	.....
Sinclair Rfg. Co., Houston	31,266.00	.....	47,906.00	110,237.12
Sinclair Rfg. Co., Mereaux, La.	2,003.00	7,030.42	.....	.....
Export Oil Corp., Avondale, La.	.....	.....	448,321.00	164,680.50
Union Petroleum Co., Westwego, La.	.....	.....	107,300.00	158,373.00
New Orleans Rfg. Co., Good Hope	.....	.....	250,000.00 (xxx)	510,074.00 (xxxx)
Galena Signal Oil Co., Houston	.....	.....	45,000.00	.....
Totals	3,338,979.66	3,038,156.76	2,121,897.57	1,732,067.57
	Coastwise Crude		**Export Crude**	
Standard Oil Co. of La., Baton Rouge	232,967.00	.....	147,547.00	55,002.00
The Sun Co., Sabine Pass	148,598.44	248,076.40	.....	.....
The Texas Co., Port Arthur	.....	.....	8,955.00	3,486.00
Gulf Rfg. Co., Port Arthur	.....	92.74	.....	.....
Magnolia Petroleum Co., Beaumont	194,011.50	117,535.89(x)	.....	.....
Humble Oil & Rfg. Co., Texas City	1,227,742.76	856,694.92(xx)	.....	.....
Totals	1,803,319.70	1,222,399.95	156,502.00	58,488.00

x—Magnolia figures show no division between coastwise and export shipments.
xx—411,973.06 barrels Ranger crude; 444,721.86 barrels West Columbia crude.
xxx—Estimated figures.
xxxx—Includes 66,000 tons fuel.

Homer Producing 55,459 Barrels Daily Of North Louisiana; 86,042 Total

By Paul Wagner

Editorial Manager, Southwestern Bureau

Staff Special

SHREVEPORT, LA., Oct. 10

THREE principal purchasing agencies and two Independent refineries with plants near Shreveport produced 57,958 barrels of the total daily average, October 1, of 86,042 barrels given up by the oil fields of north Louisiana. The gerater part of the total production (exclusive of the amount produced by companies buying "outside" oil and that run thru their pipe lines) finds its way into the hands of The Texas Company or the Standard Oil Company of Louisiana. The Gulf Refining Company of Louisiana, the third major pipe line interest, has not been a purchaser of outside oil in north Louisiana for months, handling only its own production.

Analysis of production shows that nine producing interests other than the five principal pipe line and refinery companies operating in north Louisiana produce sufficient crude to bring up the total output of fourteen companies to 77,845 barrels, daily, of the total 86,042 barrels produced. The two Independent refineries figuring most prominently in north Louisiana operations are the Louisiana Oil Refining Corporation (subsidiary of the Invincible Oil Corporation) and the Caddo Central Oil & Refining Corporation. Such interests as the White Oil Corporation and the Sinclair Oil Company of Louisiana, while having refinery interests elsewhere, sell their north Louisiana crude either to the pipe line purchasers or in tank car shipments from railrood loading racks so that they are classed herein as producing companies.

Homer Pool Situation

The disposition of Homer pool production is as follows:

Producer	Barrels	Pipeline
Standard Oil Co., of Louisiana	13,356	Standard
Glassell & Merren	615	Standard
Keen & Woolf	239	Standard
Gladys Belle Oil Co.	463	Standard
Ohio Fuel Company	291	Standard
Wonderfield O. Corp	132	Standard
F. C. Henderson	717	Standard
Bowie-Claiborne O. Co.	291	Standard
Temple Homer Oil Co.	211	Standard
Tulsa O. & G. Co.	57	Standard
United Oklahoma O & G Co.	2,268	Standard
Sterrett & Simmons	42	Standard
Stock Oil Co.	16	Standard
Total	18,698	
The Texas Company	303	To storage
Gulf Refining Co. of La.	10,421	Gulf
Louisiana O. R. Corp.	5,678	Louisiana
Arkansas Natural Gas Co.	2,476	†Transcontinental
White Oil Corporation	3,172	†White
Simms Oil Company	4,046	†Simms
Paramount Petroleum Co.	168	†Paramount
Gilliland Oil Company	10,261	‡Gilliland
Total for All Interests.	55,459 barrels daily	

†Maintain short pipelines to railroads from field.
‡Gilliland total includes 6,925 barrels own production; 1,608 barrels Vanada Oil Company and 2,030 barrels Sinclair Oil Company, of Louisiana.

Crude oil stocks at Homer, September 20, the latest figures available—the second column shows loadings at railroad racks for car shipments:

	Stocks	Loadings
The Texas Company	304,673	.....
Standard Oil Co. of La	2,775,907	.....
Gulf Refining Co. of La	729,347	43,535
Gilliland Oil Company	120,163	87,099
Simms Oil Company	444,333	28,864
Arkansas Nat. Gas Co.	4,625	27,237
Louisiana O. R. Corp.	385,350	24,434
White Oil Corp.	20,148	51,483
Paramount Petroleum Co.	42,010	1,649
Totals	4,826,556	264,301

Here is how production in the fields in north Louisiana, other than the Homer pool, is disposed:

	Owned	Outside Runs
Caddo Light		
Standard	2,200	18
Texas	1,087	31
Gulf	4,340	.....
Louisiana	80	80
Total	7,707	129
De Soto Light		
Standard	98	481
Texas	900	.....
Gulf	766	.....
Total	1,764	481
Red River Light		
Standard	144	.....
Texas	250	.....
Gulf	2,169	.....
Total	2,563	.....
Bull Bayou Light		
Texas	475	3,452
Standard	249	2,083
Gulf	1,255	.....
Caddo Central	324	2,111
Shv'pt P & R	.....	364
Total	2,303	8,010
Homer Light		
Standard	13,356	5,342
Texas	303	.....
Gulf	10,421	.....
Louisiana	5,678	.....
All Others	.....	35,100
Total	39,758	40,442
Grand Total Light	54,095	49,062
Caddo Heavy		
Standard	190	.....
Texas	104	943
Gulf	200	.....
Louisiana	135	100
Total	629	1,043
Pine Island Heavy		
Standard	75	675
Texas	2,884	1,970
Gulf	215	.....
Louisiana	60	75
Total	3,234	2,720
Grand Total Heavy	3,863	3,763
Total Light and Heavy	57,958	52,825

"Outside" Oil at Bull Bayou

The following record shows the source of "outside" oil run by the Caddo Central Oil & Refining Company, the Shreveport Producing & Refining Company, The Texas Company, and the Standard Oil Company of Louisiana from the Bull Bayou pool:

Shreveport Producing & Refining Co.	
W. G. Strange Oil Co	310
Keen & Woolf	54
Standard Oil Company of La.	
Doan Oil Co	18
Clark & Greer	120
Bull Bayou Oil Co	134
Gilliland Oil Co	535
Continental A & P Co	310
Shaffer O & R Co	77
The Sun Co	222
Depositors O & G Co	340
Sinclair Oil Co. of La	178
Seamans et al	149
The Texas Company	
Central & Coast Oil Co	475
Continental A & P Co	624
Shaffer O & R Co	273
Allison & Dingee	150
Sinclair Oil Co. of La	329
Paggi Bros. Oil Co	81
Doan Oil Co	182
Fortuna Oil Co	1,204
Allison & Day	39
Gilliland Oil Company	33
Kansas & Gulf O. Co	228
Dominion Oil Co	39
Texas Ranger O. Co	155
Hughes Petroleum Co	20
Caddo Central Oil & Refining Co.	
Depositors Oil & Gas Co	479
Continental A & P Co	709
Bull Bayou Homer O. Co	157
Doan Oil Co	146
Magna Oil & Rfg. Co	146
Belchic & Lasky	337
Foursome Oil Co	137

Here is a recapitulation of all oil handled by pipe line and refinery purchasers in the several fields of Louisiana, including Homer, both owned production and outside runs:

	Light	Heavy
The Texas Company	6,498	5,901
Standard of Louisiana	18,629	940
Gulf Refining Co. of La	18,951	415
Louisiana O R Corp	5,738	370
Caddo Central O & R Co	2,435	.....
Shreveport P & R Co	364	.....
Total	52,315	8,026

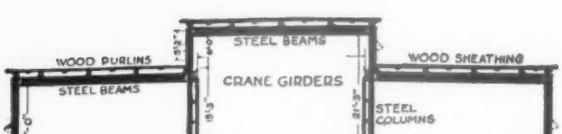
Production of Other Interests

Daily production averages for the period by other principal operators, the barrelage being already included in foregoing figures, but assembled here for convenience in showing the combined production from several fields of the larger Independent companies, follow:

	Homer	Caddo	Bull Bayou	Total
Continental A & P Co.	.....	.....	1,643	1,643
Shaffer O & R Co	.....	.....	350	350
Sinclair Oil Co. of La.	2,030	.....	507	2,537
Fortuna Oil Co. (Magnolia)	.....	.....	1,204	1,204
Gilliland Oil Co	6,925	.....	568	7,493
Depositors O & G	.....	.....	819	819
Arkansas Nat'l Gas Co.	2,476	small	.....	2,476
White Oil Corp.	3,172	.....	.....	3,172
Simms Oil Co.	4,046	.....	.....	4,046
Grand TOTAL				23,740

Added to the 54,095 barrels owned production of the five principal pipe line and refinery interests (Caddo Central, Louisiana Oil Refining, Texas, Gulf, and Standard) these figures show that fourteen interests produce 77,845 barrels of the total daily production of all north Louisiana fields, which on October 1, 1920, averaged 86,042 barrels.

Austin No. 2 Standard, built by the Fort Worth Drilling Co., of Fort Worth, Texas. This is a machine shop and was erected by the owner, using Austin Standard Materials and blue prints.



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AUSTIN

STANDARD AND SPECIAL FACTORY-BUILDINGS

Gay Proposes Jobber-Refiner Committee To Work Together

THE formation of a joint committee composed of an equal number of representatives of the refiners and of the jobbers—a "shock absorber"—to work in cooperation to conquer the problems that confront both branches of the industry, was earnestly advocated at the Friday, October 1, morning session of the I. O. M. A. convention at Denver, by President T. J. Gay, of the association in his annual address.

Attempts to inaugurate such a committee have been made at various times but have never been followed thru and put across successfully. One of his thoughts was the expansion of the scope of the code of fair trade practices adopted by the membership of the I. O. M. A. at the convention to cover more than just the jobbers' end of the oil business and make it a recognized force thruout the refining industry as well.

Discussing the reasons why such a joint committee would be desirable, Mr. Gay said:

"Its purpose would be to cooperate from time to time, looking to a more harmonious relation between the two units where one necessarily must depend upon the other, the marketer for his supplies and the refiner for his outlet, and when you consider the fact that in the greater part of the industry today this is being operated as one unit, both by the Standard Oil group and the larger group outside, then we can see the necessity and importance of these two units working very closely for the purpose of combating the conditions confronting each, there being a fixed margin between the cost of the refined article and the tank wagon price. The two units must necessarily divide this up in some manner calculated to at least continue the existence of each and if possible for a reasonable margin of profit for the stockholders after cost of operation has been met.

"It is a known fact that quite a few are today operating upon marginal contracts or differentials which seem to be fairly satisfactory, all depending upon the individuals, however, and I am not prepared to say if it would be best or even a wholesome condition to suggest entering into long term agreements, but I rather favor a monthly basis, which has many advantages, and being of short duration, neither one can feel the pinch of a bad bargain.

Shy of Marginal Contracts

"I have consulted a number of our leading marketers and refiners as well as officers of our leading associations. One marketer puts the proposition as follows: 'Another reason I would hesitate to go into a marginal contract is that we haven't found many refiners in our experience that would live up to their contracts. If we were to buy a large amount of gasoline today, to be delivered during a certain period, and the market would advance 5 cents, for some reason or other we would not get the gasoline or the quality that we purchased.

"'We have never been able to draw a contract tight enough to hold these parties if they wished to get out, for the reason they would keep shipping gasoline that would be of poor quality; then when we rejected it they would be able to sell it to some one else for more money than they have been getting from us. I am glad to say, however, that the refiners are not all of this class.'

"I have not heard complaints that the marketers indulge in such practices, but I am sure some of the refiners here have had similar experiences with the jobber.

"The further duty of the committee, I would like to suggest, would be to make a report on expansion of the marketing unit, making a report as to the territory that is not today being covered by the Independent marketers, and finding the reasons why and if thought advisable, make recommendations. This question arises and is therefore most vital to the two groups heretofore mentioned, which bears out the great necessity for greater cooperation between the two units as to whether or not the marketer is being eliminated, and why. It is certainly a most interesting question for the refiner who is depending upon the marketer for the outlet of his goods.

Suggestions

"For the benefit of this committee I would like to make two suggestions as having occurred to me since giving some thought on the subject which might be considered by the temporary committee and if any recommendations are thought advisable upon this or other lines to submit them with their report.

"First—A marginal differential based upon tank wagon prices prevailing at time of such contracts or shipment to be a matter between buyer and seller, whether one day, one week or one month, or longer.

"Second—Marketers to be classified with a view of greater efficiency as factors; for example: Class A representing dealers who would handle at least 130 cars of gasoline per year; Class B, for the dealer handling less than Class A, this based upon the assumption that the Class A dealer handling this amount of product would be established in the business of marketing with necessary equipment and selling organization, including storage, transportation and the necessary facilities therefor, and being thus established, and with this differential as a tank car margin, he could solicit and have the opportunity of securing on tank car sales the business within his scope of marketing, which will add substantially to the efficiency of this unit, and the refiner benefiting thereby.

"I rather believe this could be extended to fuel oil, gas oil and kerosene and would be of great benefit to the marketing of products of the refiner who expects to market his goods thru the Independent marketer and to be able to meet the large group of marketers who do their own refining and producing, or partially so, as well as the Standard Oil group.

"The point I wish to bring out more forcibly is to harmonize more closely the Independent refiner who does not have his marketing facilities but depends upon the marketer to dispose of his output, and it is to these units of the industry that I appeal to consider what seems to me the most sane, common sense cooperation of the two units of the industry, being absolutely dependent one upon the other for meeting existing conditions.

"I can understand where some will not agree with me fully upon this theory, and there are exceptions. As an example, the refiner may enjoy today a most satisfactory export business, but is it permanent? You secure a fat order from some one or some group of the marketing companies. A good price, you say, the cash is forthcoming, it looks good and you cannot pass it.

"Do you believe for a moment it is for your ultimate good or will it in any way help the two units which should be given first consideration? If you have been in the business very long you will not need to be cited for concrete examples; your experience is sufficient. The refiner says the marketer does not show him any consideration and then the question arises: 'Do you show the marketer any consideration?'

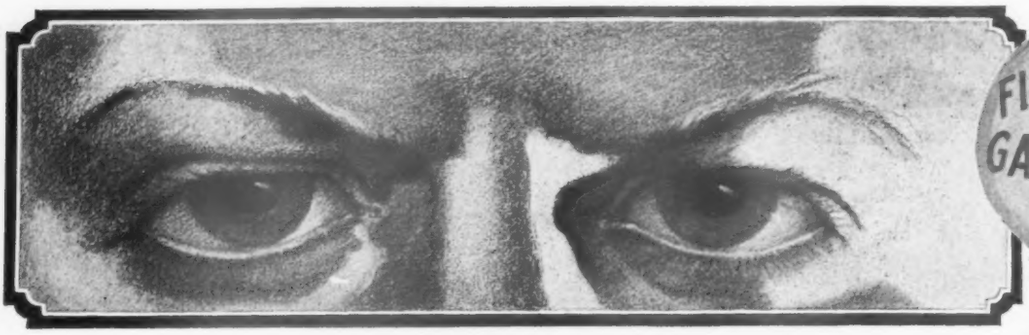
"I realize that it is either good for the marketer or good for the refiner; one or the other is usually on top while the other is on the bottom.

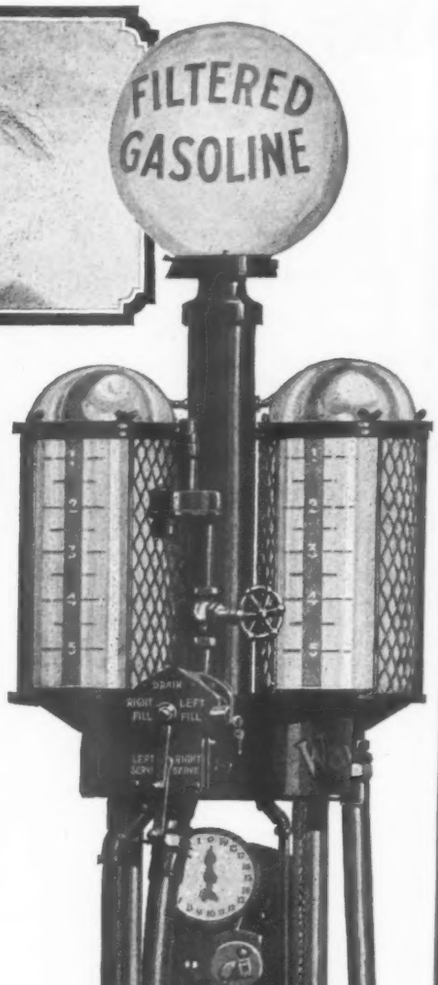
"By more consideration of the two units is it not possible to improve that condition and is it not necessary to guarantee a future place in the industry for both the refiner and marketer; does it not seem entirely plausible? Get together, get acquainted; when you get to know a fellow and you understand his ways, then his faults won't really matter, for you'll find a lot to praise.

"The business of selling oil differs from the ordinary line of merchandising, because when one desires to enter the average line of business he simply considers the opportunity, and as an individual enters with the feeling that he can buy goods on the same terms and conditions as his competitor, and by observing the natural laws and by close attention to business, selling at a fair margin above cost of operation, can feel assured of success. This is not so with the marketer I have just mentioned, selling to the dealer and consumer.

"He has little, if anything, to do with the price of leading oil products; the prices are fixed on gasoline and kerosene at which he sells, concerning

(Continued on Page 38)





Your Eyes See Visible Proof of Mechanically Accurate Measure

Your eyes may easily be deceived! That's why you buy raw materials, commodities and foodstuffs by mechanical weight and scale-measure instead of by guess and eye-measure. Naturally you are not absolutely guaranteed accurate, honest measures of gasoline just because you see it measured from glass containers. Such measures usually are gauged largely by the eyes of the pump operator—and human eyes err.

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Free from the frequent fire and explosive dangers of electric, air and water-driven pumps. Free from endless repair troubles —free from costly operating expense— free from inaccurate eye-measure and doubt. Hand-operated either as a piston-type or visible—two pumps in one.

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Why Not A Jobbers' Annual Convention For Jobbers Exclusively?

TO those who have regularly attended conventions of the oil jobbers' associations the past few years the following conclusion is undoubtedly apparent. Those conventions are coming less and less to cater to the exclusive needs of oil marketers and more and more to be general expositions for the entire industry. The recent Denver convention went further in this respect than any meeting previously held.

That this condition is recognized by the industry is to be seen in the relatively small number of jobbers registered at the Denver convention, when compared with the registrations of refiners, supply and equipment manufacturers, oil shale promoters and others.

The elaborateness with which our annual conventions are now staged and the wideness of their appeal, aimed to attract the largest number of individuals possible, is due to the rivalry which exists between the two jobbers' associations. Whether or not that rivalry is recognized by those at the head of those associations, it still exists because it is impossible for two groups of individuals to be doing the same work and not attempt to outdo each other. The Independent Oil Men's Association worked to stage a bigger and better affair at Denver than the American Independent Petroleum Association's convention at Chicago last spring.

With this end in mind it let the oil shale promoters in on the exhibits and gave them a place on its program. It is just human nature that the latter association will attempt to put on a bigger show at Kansas City next spring, unless a halt is called to the present tendency of these affairs, and supply and equipment manufacturers must continue to stage their exhibits twice a year to reach practically the same people.

We believe that now is the time to call a halt.

The affairs of the exclusive oil jobbers are big enough and vital enough to the industry generally, and their particular problems are of sufficient importance, that they are going to have an association that will cater to their needs only. If the two general jobber associations now in existence each furnish a service to the oil jobbers that is exclusive to themselves, then there is a place for two jobbers' associations.

We believe, however, they will eventually consolidate. On the other hand, if those associations lessen their effectiveness by attempting to serve other branches of the industry, then some new association is coming up to represent the oil jobbers. An exclusive jobbers' association can furnish a service to the industry that is necessary and there is going to be such an association, just as there are now exclusive refiners' associations and exclusive producers' associations.

The suggestion has been made that the I. O. M. A. broaden its activities to serve the other two branches of the Independent industry. It is our opinion that the I. O. M. A. can better serve the industry by devoting its entire activity, during its annual convention as well as the rest of the year, in serving no one but the Independent jobber.

Points of contact between the Independent associations in the three branches of the industry are necessary in order that the entire Independent industry can present a solid front when threatened by the Standard Oil group. Such points of contact were brought out by President Gay in his annual address at the Denver meeting. With strong Independent associations established in other branches of the industry why attempt to duplicate their work?

The need is for a jobbers' association that has nothing else in mind but the jobbers' interests. Its annual meetings should be purely business affairs, with forums on trade relations with refiners, credit and collection systems, traffic problems, improved methods for handling trucks, and a host of other matters that vitally concern jobbers particularly. New jobbing firms are coming into existence. They should be cultivated by the jobbing trade generally. They need a jobbers' association and the jobbers' association needs them.

In itself the idea of a petroleum exposition, such as was just held in Denver, is worthy of following. The public at Denver has a different idea of the oil industry now than it had before the I. O. M. A. meeting there. In view of the general public interest in matters relating to petroleum now it would be a good thing if one were held each year at a different city. There could be exhibits of all oil products, equipment, accessories, in fact everything connected with the industry. There could be band concerts, movies, organ recitals to attract the public. Once there they could be told fundamental facts about the business that would bring them to greater appreciation of its magnitude and its place in the present business world.

Everyone could come in on such an exposition. It would not matter who initiated it. But it should be staged as an exposition and not as the annual meeting of a jobbers', refiners', or producers' association. It should be entirely aside from the association work of any organization. The whole industry could take part and the equipment and accessory manufacturers could come in on one exhibit and reach all branches of the oil business and the general public as well.

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G. G. Brockway Company

Manufacturers of the
New Century Fullers Earth Dryer

WARREN, PA.

(Continued from Page 35)

the fixing of which he has absolutely nothing to say. His margins can be cut to where he will sustain a loss, and that over night, and continually the thought is before him whether or not he will be forced to retire, or if by some mysterious condition he would entertain the hope of holding on. It is easy to see what becomes of the spirit of the individual who hazards his life work in a business of this kind.

"As to the action of foreign countries affecting the future oil supply of America I have no fear but what this condition will be satisfactorily disposed of when the time is opportune.

"I advocate conservation in the strictest sense. The public should be educated; manufacturers of gasoline saving devices should spend time and money developing scientific methods to get the most miles out of a gallon of gasoline. I have been told by automobile engineers that we were not getting anything near 50 per cent efficiency in the use of present methods of carburization and, as a matter of fact, I don't think the average automobile manufacturer or engineer has given very serious consideration to this subject; perhaps the necessity has not yet arisen.

"Right here is a wonderful opportunity for cooperation of the automobile manufacturer and the oil industry, in which the Independent Oil Men's Association stands ready and willing."

American Petroleum Institute

Concerning the American Petroleum Institute, Mr. Gay said:

"Referring to the American Petroleum Institute and its purposes, as I understand them, much good can be gained by the harmonizing influences brought about by cooperation of the entire industry. There will necessarily be many issues arising from time to time which can best be met by a solid front backed up by the industry as a whole and as an executive body or forum for the discussion of all questions affecting the whole industry alike.

"In this organization we must necessarily overlook the past history of the oil industry and look to the future where men, thru the spirit of fairness and cooperation, may meet thru its directors and discuss the great questions affecting the industry.

"We must admit that the controling group, by its long experience and financial power, has been able to locate most strategically its refining plants, and as a unit or allied interest, they seldom conflict except for some specific purpose or object.

"I have in mind the present freight rate situation. There is some question in my mind as to whether this matter can be handled to the best satisfaction of all interests notwithstanding that it is a national issue and, I feel, should be worked out thru some concerted action, but is it possible for that group, being more advantageously situated, to becoming enthusiastic?

"I merely cite this as an example, and there are, no doubt, many other questions that might arise in which it might be difficult to obtain the solid support of the institute to put thru a program that would be much needed by some part of the industry and in which the other might not be sufficiently interested.

"Now comes the quesion of the institute and their ability and foresight to look ahead and be guided by greatest consideration for all interests. It is my opinion that there is a natural feeling of distrust among the men engaged in both refining and marketing, this feeling having been bred within the ranks of the controlling group of the industry, dating back for many years, and those who are now engaged in the petroleum industry whose experience takes them back fifteen to twenty years.

"They necessarily are among the doubting class and the same may be said of the men who are engaged in the business today and were on the side of the great industry during that time, but I believe that the modern day spirit is fast overcoming the old order of things and that men in all ranks of the industry today, with few exceptions, whatever interest they may represent are willing to come out in the open.

"They are good sports and are not the calibre of men to try to take advantage, having learned that such an advantage was only temporary and will not stand the acid test. The old days when the order was 'to get the business honestly if you could but get business' is fast being dissipated. I believe the majority of men in the industry today are endeavoring to play the game fair, altho we expect to meet with exceptions at times and cannot hope for perfection.

"If the American Petroleum Institute is guided by right principles in the hands of real men with no ulterior motives, I am quite sure it will perform a great service to the industry and will succeed. If, on the other hand, it is to be used as a means to an end, it will most surely fail."

Referring to the code of ethics adopted at the convention, Mr. Gay said:

"This important and far-reaching document gives promise of some relief. At any rate, it will be the means of leading men to adopt in business the familiar set of admonitions as promulgated on Mt. Sinai as a rule and guide to our lives then we shall say that much good will eventually come out of this document. We have long since learned that it is impossible to attempt to legislate morals into people but feel that the experience of the World's War we have recently passed thru and are passing thru will certainly have the effect of causing men to think differently and to act in a manner more in line with the golden rule."

By Special Correspondent

SHREVEPORT, LA., Oct. 8.—State Supervising Auditor McFarland has opened a branch office in Shreveport, with S. P. Gagnet in charge, for collection of the new severance taxes from the parishes of DeSoto, Caddo, Red River, Claiborne and Bossier, in which parishes are located the bulk of the north Louisiana oil operations. Mr. Gagnet estimates that the probable amount to be collected from the severance tax in the state this year will equal $3,000,000. Taxes for the quarter ending September 30 are now being collected, this being the second quarter since the severance tax law took effect. The tax is due by oil, lumber, sulphur and other industries engaged in severing natural resources from the soil.

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Tanker Named In Honor Of Veteran Joseph Seep

By Special Correspondent

NEW YORK, Oct. 11.—The launching of the Standard of New Jersey's 10,400-ton tanker Joseph Seep at the Chester, Pa., shipbuilding yards, which occurred Saturday, October 9, was the occasion for an interesting celebration and tribute to the achievements of the man in whose honor the vessel was named, a pioneer in the Standard service and still active as chairman of the board of directors of the South Penn Oil Company, of Oil City, Pa., now in his eighty-third year. Invitations were sent to 450 of Mr. Seep's personal friends for the launching, and there was a large attendance from the local offices.

Mr. Seep was born May 7, 1838, in Voerden, Hanover, since made a part of Prussia. His family came to this country in 1849, settling in Richmond, Ind. Six months later the father died, and the mother and four children went to Cincinnati. Joseph learned the trade of cigar maker, following it for nine years. He later associated himself with Jabez A. Bostwick in the grain and hemp business in Lexington, Ky., and afterward in the cotton business in Cincinnati, becoming purchasing and shipping agent in the latter field for the southern states.

In 1869 Mr. Seep went to Titusville and identified himself with the oil trade with Mr. Bostwick. Two years later, when the Standard was organized, he became buyer of crude oil for the company, which position he held until the dissolution in 1911, under the trade name of the Seep Purchasing Agency. Upon the dismemberment of the Standard, Mr. Seep assumed direction of the South Penn Oil Company.

In addition to his oil affiliations he has been prominently identified with financial organizations.

Quits Oil Business To Raise Fine Stock

Staff Special

PONCA CITY, Oct. 8.—A. L. Bogan, officer and member of the board of directors of the Marland Refining Company and Kay County Gas Company, has tendered his resignation which was accepted by both companies at a recent meeting of the board of directors, held in Ponca City, September 25.

Mr. Bogan, who was secretary-treasurer of the Marland Refining Company and treasurer of the Kay County Gas Company, has severed his connection with the Marland interests to enter the farming business in Kay county, and will devote his time to raising fine live stock.

O. P. Callahan, assistant treasurer, was appointed acting treasurer pending the election of a permanent treasurer. J. C. McElroy, formerly head of the accounting department of the Marland Refining Company, was elected secretary, and W. A. Moncrief, assistant secretary.

A. K. Theobold was elected secretary of the Kay County Gas Company, succeeding Chester H. Westfall, resigned.

Gypsy Effects Big Saving By Use Of Oil Vapor Conserver

By J. B. Gambrell, Jr.

Editorial Manager Mid-Continent Bureau

Staff Special
TULSA, Oct. 7

CRUDE oil producers, particularly the larger operating companies, have realized for a long time that a great loss has occurred due to the shrinkage of oil shortly after its delivery from the well to the stock tank, and a number of experiments have been conducted with a view of determining the amount of shrinkage. Tests of a week or ten days' period have resulted in a loss of from one to six per cent thru evaporation, depending upon the gravity of oil, storage arrangements and season of the year.

It was the desire to stop this shrinkage loss which is responsible for the invention of the "oil vapor conserver," designed by Hollis P. Porter, superintendent of gas, water and research department of the Gypsy Oil Company, Mid-Continent producing subsidiary of the Gulf Oil Corporation. Mr. Porter based his invention upon the idea that if the oil could be passed thru a comparatively small vessel of substantial design which would gather the lighter hydrocarbon vapors while the oil was under partial vacuum, the larger part of the shrinkage would take place in this vessel and the vapors thus conserved could be delivered to the gasoline plants.

The first successful test of the oil vapor conserver was on September 10, 1917, on the famous Fred Boston lease, near Cleveland, Oklahoma. This lease had a number of wells flowing by heads and a large quantity of emulsified oil, which required treatment by steam heat, which was resulting in a great loss of hydrocarbon vapors. In fact, the gasoline department of the Gypsy Oil Company doubted seriously the advisability of installing even a one-unit casinghead plant, as the measurements of the gas showed but a small amount could be gathered by the ordinary methods which were being employed at that time. Following the installation of the oil vapor conservers, it was found that enough gas could be gathered from flowing wells, lead lines and vapor lost thru shrinkage in stock tanks to justify the erection of an additional unit. Since this time six more units have been constructed, and the casinghead plant is now manufacturing 9,240 gallons daily, whereas the original unit was producing less than 1,500 gallons daily; the installation of oil vapor conservers on this lease alone has netted the Gypsy Oil Company more than $200,000 up to the present time, and this company now has installed on its various leases 23 conservers of different types.

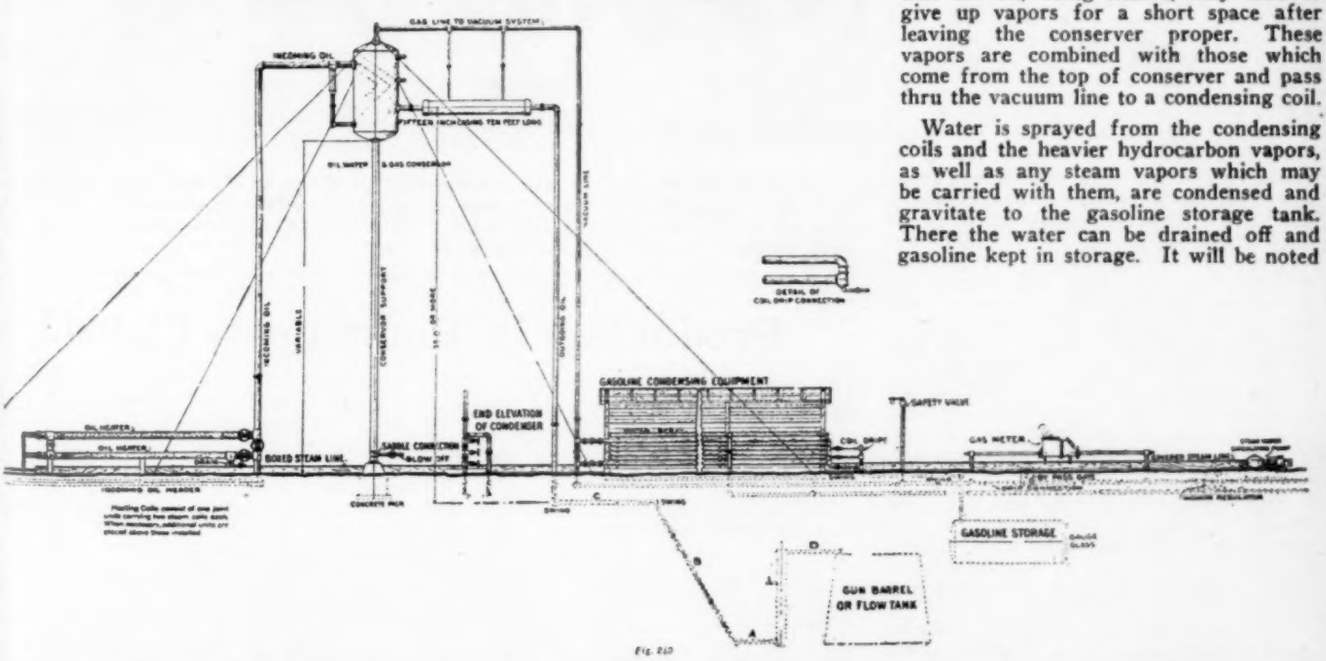
Battery of oil vapor conserver controlling wells making 5,000 barrels of crude oil and 1,000,000 cubic feet of 4-gallon casinghead gas daily, on the Gypsy Oil Company's famous lease, near Cleveland, Okla.

The oil vapor conserver is just what its name implies—an apparatus designed to conserve oil vapor and natural gas from flowing or pumping wells, without danger or damage to the crude oil production. In addition to being used for conservation of fuel and casinghead gas, as it is pumped or flows from the well, it has been used most successfully by the Gypsy Oil Company to conserve vapors from treating plants, proving a simple, economical apparatus, easily installed and with no operating overhead.

The accompanying diagram shows the layout of the oil vapor conserver operating in conjunction with a treating plant for emulsified or badly cut oil.

It will be noted that the oil is first heated in a double pipe heater which contains steam coils. The oil in the vapors then passes thru the incoming oil line to the conserver, where they are separated. The vapors pass thru the line leaving the top of the conserver, while the oil gravitates from the conserver, after passing thru a ten-foot piece of 15-inch casing. This piece of casing is added in this case to the conserver, but is not ordinarily employed. The reason for this addition is that the oil, being heated, may tend to give up vapors for a short space after leaving the conserver proper. These vapors are combined with those which come from the top of conserver and pass thru the vacuum line to a condensing coil.

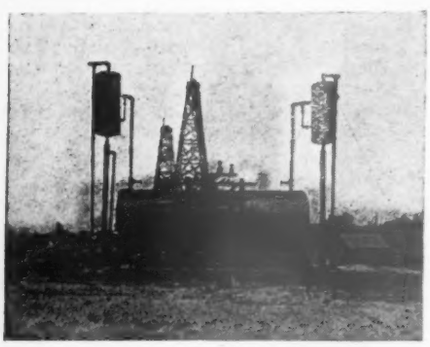
Water is sprayed from the condensing coils and the heavier hydrocarbon vapors, as well as any steam vapors which may be carried with them, are condensed and gravitate to the gasoline storage tank. There the water can be drained off and gasoline kept in storage. It will be noted



General layout of oil, vapor conserver and treating plant, as used on the properties of the Gypsy Oil Company.

further that any of the vapors which are non-condensable will pass thru the condensing coils, thence into the gas meter, from which it is conveyed to the regular vacuum gas gathering system. In this way not only condensable vapors, but also non-condensable vapors are utilized.

The oil flows by gravity to a tank thru a small reservoir. The purpose of this reservoir is to hold a sufficient supply of oil to fill the flow line as far back toward the conserver as may be necessary, so that the column of oil thus supplied will be sufficient to overcome the vacuum and



Oil vapor conserver in operation on one of the Gypsy Oil Company's properties

seal the oil line in a manner preventing any possible leakage of air back thru the line. In other words, the oil vapor conserver is elevated approximately 35 feet above the supply of oil in the reservoir. This elevation gives sufficient head to overcome the vacuum which is tending to hold it up.

As an example of what has been accomplished with this type of conserver, the one installed on the Gypsy Oil Company's Jackson Barnett lease, near Drumright, Oklahoma, where oil was being pumped from wells in an emulsified state, it was found necessary to heat this oil in order to separate the water. Prior to the installation of this layout the oil vapors escaped into the air and were wasted. After this layout was in operation, however, 750 gallons of gasoline were condensed, and a considerable volume of non-condensable gas was saved.

One style of the oil vapor conserver is applied to an individual pumping well. This type of installation has been found very desirable on wells which, after being put on the beam, will occasionally flow and without the oil vapor conserver would necessarily allow gas and oil vapors to escape into the air, for the reason that it would not be safe to leave the connection between the casinghead and the vacuum line open, because the fluid would flow into the vacuum system and be detrimental to the casinghead gas.

The principle is one in which the oil separates from the gas by gravity and the elevation of the conserver is such that the hydrostatic heads overcome the vacuum.

This type of conserver has been installed on many of the Gypsy Oil Company's wells, but the volume of gas saved has not been metered, consequently, it is not possible to determine the volume and value of gas saved by this method.

Not only has the oil vapor conserver been used to save gas for fuel or gasoline manufacture, but in numerous cases has also been utilized to reduce hazards by controlling and conducting gas away from oil tanks, which often constitutes a serious menace thru lightning or carelessness.

Mr. Porter, inventor and designer of the "oil vapor conserver," has a patent applied for, and in recognition of the cooperation and support accorded him by his employers, has assigned to the Gulf Oil Corporation the right to the manufacture and use of it for their own properties.

New Louisville Service Station Fitted To Care For Autos At Busy Corner

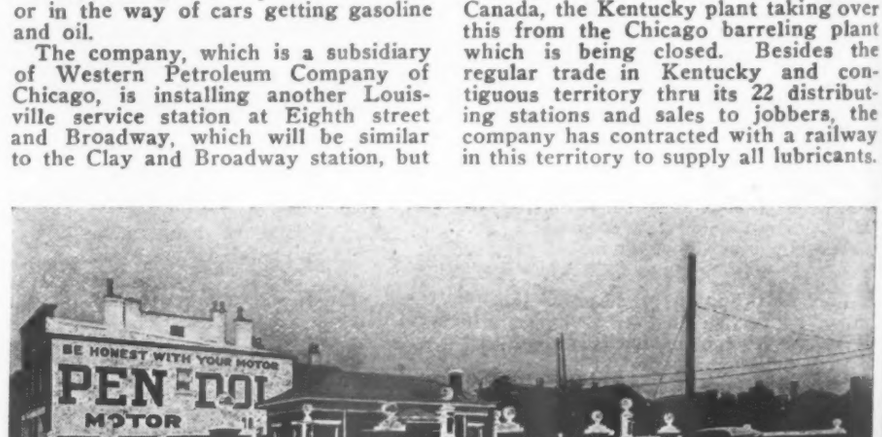
LOUISVILLE, KY., Oct. 8.—The intersection of Clay and Broadway streets, Louisville, is a pretty busy place, so really unusual lengths were gone to by Western Petroleum Company of Kentucky in arranging to care for the "peak load" at its new service station.

Eight pumps, so installed that plenty of clearance is afforded cars which drive in, frequently work at maximum rapidity during the day, and in this feature of clearance the station is unique in this section. Eight cars can be filled at one time and no car after filling is compelled to wait for any other to drive out. The two air pumps are so situated that cars coming in for air are not in the way of each other or in the way of cars getting gasoline and oil.

The company, which is a subsidiary of Western Petroleum Company of Chicago, is installing another Louisville service station at Eighth street and Broadway, which will be similar to the Clay and Broadway station, but will have six pumps. Neither station is covered, as the Kentucky sun is in action most of the time.

An 800-barrel compounding plant has just been completed at Thirty-first and Dumesnil streets, Louisville, where general offices of the Kentucky company have recently been removed from the Bush building. A. G. Talbot recently came here from the Chicago office to supervise the construction of the compounding plant and will remain in charge for several months.

The plant turns out a line of tractor oils, harvester oils, steam cylinder stocks, floor oils and various other specifications, all marketed under the name "Pendol." It supplies Canadian trade thru the Crown Oil Company of Canada, the Kentucky plant taking over this from the Chicago barreling plant which is being closed. Besides the regular trade in Kentucky and contiguous territory thru its 22 distributing stations and sales to jobbers, the company has contracted with a railway in this territory to supply all lubricants.



This filling station at the intersection of Clay and Broadway, Louisville, built on a large plot of ground, was designed to handle eight cars at one time, with no car in the way of any other. This photograph was made before the final touches, including lettering, were given.

Production In Roumanian Fields

Roumanian petroleum production, by districts, during the first six months of 1920, in comparison with the corresponding period of 1919, was as follows (in barrels):

The drop of approximately 525,000 barrels from the production of 1919 (six months) is attributed to lack of drilling tools, due to the transport crisis. It would have been still greater had not some new and rich wells been struck. The investment of foreign capital is considered essential to the removal of present transport difficulties.

	Prahova		Dambovitza		Buzeu and Dacau		Total	
	1919	1920	1919	1920	1919	1920	1919	1920
January	450,352	406,973	93,975	51,786	61,565	31,437	605,892	490,126
February	398,202	365,358	93,387	53,669	67,412	45,451	561,001	464,478
March	502,012	394,513	130,158	88,011	84,672	71,519	716,842	554,036
April	486,437	526,127	119,917	56,455	63,994	52,563	670,348	631,145
May	519,260	425,222	91,140	53,032	54,488	70,868	664,888	549,122
June	422,695	417,641	73,976	86,583	60,102	55,475	556,773	559,699
	2,778,958	2,535,834	602,553	389,536	394,233	327,313	3,775,744	3,252,686

Comparative Figures On Financial Ranking Of Big Oil Companies

A TABLE showing the relative rank of several of the large oil companies with regard to their respective assets, recently compiled by **National Petroleum News**, has called out considerable interest and comment. In at least one prominent journal this table was quoted in a conspicuous advertisement, and as upon further suggestion its strict accuracy has been called in question, it is proper that the following communication from Henry L. Doherty & Company, under date of September 8, 1920, should be quoted in full:

"It has come to our attention that in the issue of August 18 of the **News** there was an article printed, comparing the business of nine companies in the United States, engaged in the oil industry, and it placed Cities Service in the sixth position.

"In order that you may have a correct understanding of the business of Cities Service Company, we wish to give you the following facts:

"Cities Service Company is a holding company, owning the securities of various operating companies thruout the United States. Its assets do not include physical property of any character.

"In the last annual report of the company, however, there is a balance sheet of the operating subsidiaries, showing the combined assets and liabilities of those companies.

"The same holds true of the income account of Cities Service Company, which does not reflect the gross earnings from the sale of crude and refined oil products, its gross earnings being that proportion of the subsidiary companies' net earnings, after allowing for the interest and dividends not accruing to Cities Service Company."

We are glad to be checked up on a fact well known in this office but overlooked in making up the statement referred to.

Accordingly, a request was made to Doherty & Company that, if possible, they segregate the natural gas and oil business of Cities Service subsidiaries. This has now drawn out the first public statement, we believe, wherein such assets are given separately. The statement is additionally interesting since it definitely places Cities Service Company in third rank in the oil and natural gas business in the United States, with Standard Oil of New Jersey and Standard Oil of New York, alone, leading, and Sinclair Consolidated following as fourth. The letter from Henry L. Doherty & Company is under date of October 1, 1920, and follows:

"Since the receipt of your letter of September 10 we have been attempting to arrive at a division of the physical assets of the subsidiaries of Cities Service Company, between the natural gas and oil companies and public utilities.

"We have found it impossible to make any detailed itemization of the accounts belonging to the natural gas and oil subsidiaries, and the best we can do is to give you an approximation.

"In addition to the assets shown in the enclosed balance sheet of the Empire Gas & Fuel Company and subsidiaries, for December 31, 1919, there are approximately $60,000,000 of other natural gas and oil companies not in this group. The combined total of all natural gas and oil companies is about $285,000.000. In addition to this, Cities Service Company, itself has assets, a portion of which is employed in the oil business. From the annual report there are approximately $12,000,000 current assets, of which $9,000,000 can be allotted to the natural gas and oil business, based on their respective earning power to Cities Service Company. The total consolidated assets would therefore be about $294,000,000, which is being utilized in the natural gas and oil business."

A revised compilation of oil companies in the United States reporting over $100,000,000 of assets would now include thirteen corporations, in the following ranking order:

Rank	Company	Total Assets
1	Standard Oil Co., N. J.	$853,092,511
2	Standard Oil Co., N. Y.	299,592,590
3	Cities Service Co. subsidiaries	294,000,000
4	Sinclair Consolidated	265,380,114
5	Texas Company	261,329,655
6	Gulf Oil Corp.	218,476,442
7	Transcontinental Oil	198,256,801
8	Standard Oil Co., Cal.	174,317,551
9	Magnolia Petroleum Corp.	157,238,862
10	Standard Oil Co., Ind.	154,672,024
11	Pure Oil Co. (Ohio Cities)	131,670,617
12	Prairie Oil & Gas	117,955,760
13	Mexican Eagle Oil	108,942,613

Here we have, concentrated in thirteen companies, over three billions of assets ($3,234,925,540) without taking into account $232,508,612 assets of Royal Dutch and Shell Trading & Transport Company's $125,898,363, these two latter being distinctly foreign companies tho heavily invested in the United States.

Another way of looking at it would be to make a comparison of capitalization outstanding, altho this is not altogether conclusive as to bigness. Such comparison would show (Cities Service subsidiaries omitted):

Rank	Company	Capitalization
1	Standard Oil Co., N. J.	$196,676,600
2	Texas Company	130,000,000
3	Standard Oil Co., Cal.	99,373,311
4	Standard Oil Co., N. Y.	75,000,000
5	Mexican Eagle	55,556,790
6	Pure Oil Co.	54,039,600
7	Magnolia Petroleum	44,003,600
8	Gulf Oil Corp.	35,284,600
9	Standard Oil Co., Ind.	30,000,000
10	Prairie Oil & Gas	18,000,000
	Sinclair Consol.	*2,940,000
	Transcontinental Oil	*2,000,000

*Shares

In the order of property assets the twelve companies stand thus:

Rank	Company	Property Assets
1	Standard Oil Co., N. J.	$312,479,161
2	Transcontinental Oil	187,290,000
3	Sinclair Consol. Oil	175,792,026
4	Gulf Oil Corp.	172,508,173
5	Magnolia Petroleum	113,121,160
6	Standard Oil Co., Cal.	110,377,447
7	Pure Oil Co.	99,243,815
8	Standard Oil Co., N. Y.	85,969,617
9	Texas Company	81,078,654
10	Standard Oil Co., Ind.	76,651,879
11	Mexican Eagle	46,616,477
12	Prairie Oil & Gas	36,516,575

In the matter of current assets, their

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600°
Steam Refined Cylinder Stock
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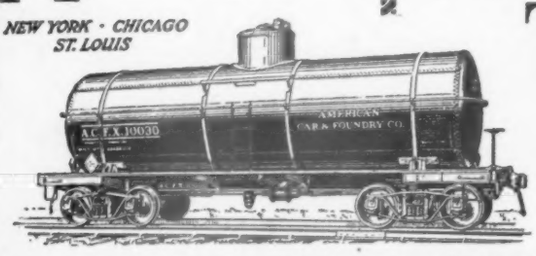

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New York, Houston, Atlanta, Boston, New Orleans, Tampa, Philadelphia

REFINERS OF OKLAHOMA TEXAS AND LOUISIANA

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REFINED OIL
GASOLINE
NAPHTHA
GAS OILS
PARAFFINE WAX
ASPHALT

Fuel Oil--Lubricating Oils

CYLINDER ENGINE
CORDAGE

RED AND PALE PARAFFINE OILS

standing is as follows:

Rank	Company	Current Assets
1	Standard Oil Co., N. J.	$540,613,350
2	Prairie Oil & Gas	98,509,914
3	Standard Oil Co., N. Y.	78,054,182
4	Standard Oil Co., Ind	78,020,145
5	Texas Company	76,652,955
6	Standard Oil Co., Cal.	63,267,997
7	Gulf Oil Corp.	44,778,112
8	Mexican Eagle	43,416,112
9	Magnolia Petroleum	43,416,332
10	Sinclair Consolidated	34,721,436
11	Pure Oil Co.	19,275,588
12	Transcontinental Oil	9,703,063

A still closer comparison is had in the matter of net current assets, the twelve companies standing in this order:

Rank	Company	Current Net Assets
1	Standard Oil Co., N. J.	$384,349,404
2	Mexican Eagle	104,777,423
3	Standard Oil Co., N. Y.	75,817,559
4	Prairie Oil & Gas	68,997,595
5	Standard Oil Co., Ind.	68,512,503
6	Texas Company	67,145,642
7	Standard Oil Co., Cal.	57,678,624
8	Magnolia Petroleum	34,657,178
9	Pure Oil Co.	17,649,077
10	Gulf Oil Corp.	13,874,717
11	Transcontinental Oil	9,408,620
12	Sinclair Consolidated	9,292,700

Nor would this comparison be complete without a statement as to the respective surplus accounts. These stand:

Rank	Company	Surplus
1	Standard Oil Co., N. J.	$499,084,275
2	Transcontinental Oil	198,256,801
3	Standard Oil Co., N. Y.	142,583,873
4	Standard Oil Co., Ind.	105,117,258
5	Prairie Oil & Gas	79,912,531
6	Texas Company	77,505,491
7	Gulf Oil Corp.	67,693,043
8	Magnolia Petroleum	60,278,618
9	Standard Oil Co., Cal.	58,117,168
10	Pure Oil Co.	47,379,366
11	Mexican Eagle	22,988,159

Most of these figures are as of December 31, 1919. Magnolia Petroleum's statements go back to 1918.

It may be interesting to extend the comparison to companies reporting assets between $50,000,000 and $100,000,000. Such list would show:

Rank	Company	Assets
1	Atlantic Refining	$ 95,400,893
2	Union Oil (Cal.)	89,679,791
3	Associated Oil Co.	83,580,073
4	Ohio Oil Co.	81,710,056
5	Mexican Petroleum, Ltd.	76,091,114
6	Vacuum Oil Co.	75,619,536
7	Columbia Gas & Elec.	72,961,050
8	Midwest Refining	72,664,012
9	Pierce Oil Corp.	60,398,257
10	Pan Amer. P. & T.	59,962,580
11	Tide Water Oil Co.	57,753,448
12	Anglo-American Oil.	55,682,640

And finally, there is a list of the "near great," the big ones which are not yet quite big enough to get into the foregoing lists, but are getting there. Such list would include: California Petroleum, General Asphalt, General Petroleum, Houston Oil, Humble Oil & Refining, Island Oil & Transport, Marland Refining, Middle States Oil, National Refining, Oklahoma Producing & Refining, Paragon Refining, Producers & Refiners Corporation, Superior Oil, Texas & Pacific Coal & Oil, White Eagle, White Oil Corporation, and Indian Refining.

HOUSTON, Oct. 7.—Island Oil & Transport Company, whose operating subsidiary in the light oil fields of Mexico is the Cia. Metropolitana de Oleoductos, S. A., had delivered more than a million barrels of crude to tankers loading out from the east coast of Mexico up to September 22, and promised to equal if not exceed for the month its July record shipment of 1,508,323 barrels. Its pipe line system in the lower field is now handling 45,000 barrels daily and a ten-inch pipe line is being laid from Tepetate to lots 114 and 135, Chinampa.

Hopes For Old Fields To Renew Productivity

Various sources from which our domestic production of crude oil may be augmented and outside sources from which our supply of oil products may be augmented through manufacturing processes applied to various raw products were outlined at the Wednesday afternoon of the I. O. M. A. convention in Denver, by J. O. Lewis, petroleum technologist of the Bureau of Mines, Washington.

Mr. Lewis prefaced his talk by stating he was going to take an optomistic viewpoint of the situation.

He announced that methods would be brought into use by which half and perhaps as much oil again as they had previously produced will be taken from wells after they have reached the point of abandonment. This means, he stated, that to the seven billion barrels of oil estimated to remain in the ground now in the oil fields of this country, another five billion barrels could be added, equivalent to what has already been produced, increasing our reserves just that much.

With regard to the development of outside sources of oil products, Mr. Lewis spoke as follows:

"The search for other sources of supply is primarily a search for raw materials, materials from which the various products may be derived in quantity, quality, and costs equal to our needs.

"There are two kinds; plant materials, which grow on the surface of the land; and coals, oil shales, and bituminous sands which are a part of our rock foundations. Plant growths are renewing and are a permanent source of supply, but the carbonaceous materials of our rock formations are wasting assets and are not being replaced by nature.

"For these reasons the derivation of alcohols, and vegetable lubricants from plant growth has appealed to the popular imagination. But when one contemplates the enormous quantities necessary to meet even our present needs he is appalled by the magniture of the problem. This year's corn crop would make some seven billion gallons of alcohol, or about two billion more than our gasoline need, but obviously it would not be to the public interest to divert this amount of corn from its present uses, nor even the lands on which to grow such a crop in order to meet our motor fuel requirements. Food is beyond question our first necessity, and as time goes on our needs for preserving the surface primarily to food production will become more and more vital.

"There are, of course, waste materials on the farm, in the lumber camps, and elsewhere of a vast total and from them much alcohol and ether is, or may be economically derived. The quantity now being used as motor fuel, however, is negligable in comparison with our needs. What may be derived in the future is a matter largely of technical and economical development. In my opinion, however, the quantity available for some time must be of itself of minor importance. The chief obstacle, and the one commonly overlooked, is the almost universal dissemination of the waste materials mak-

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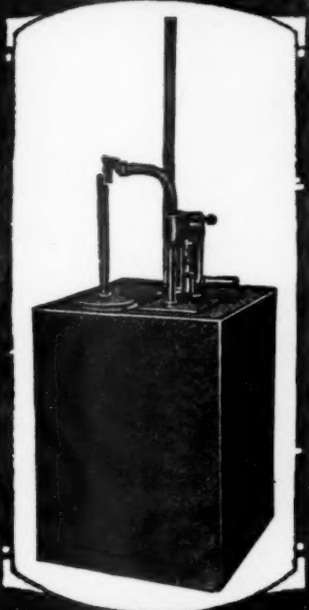

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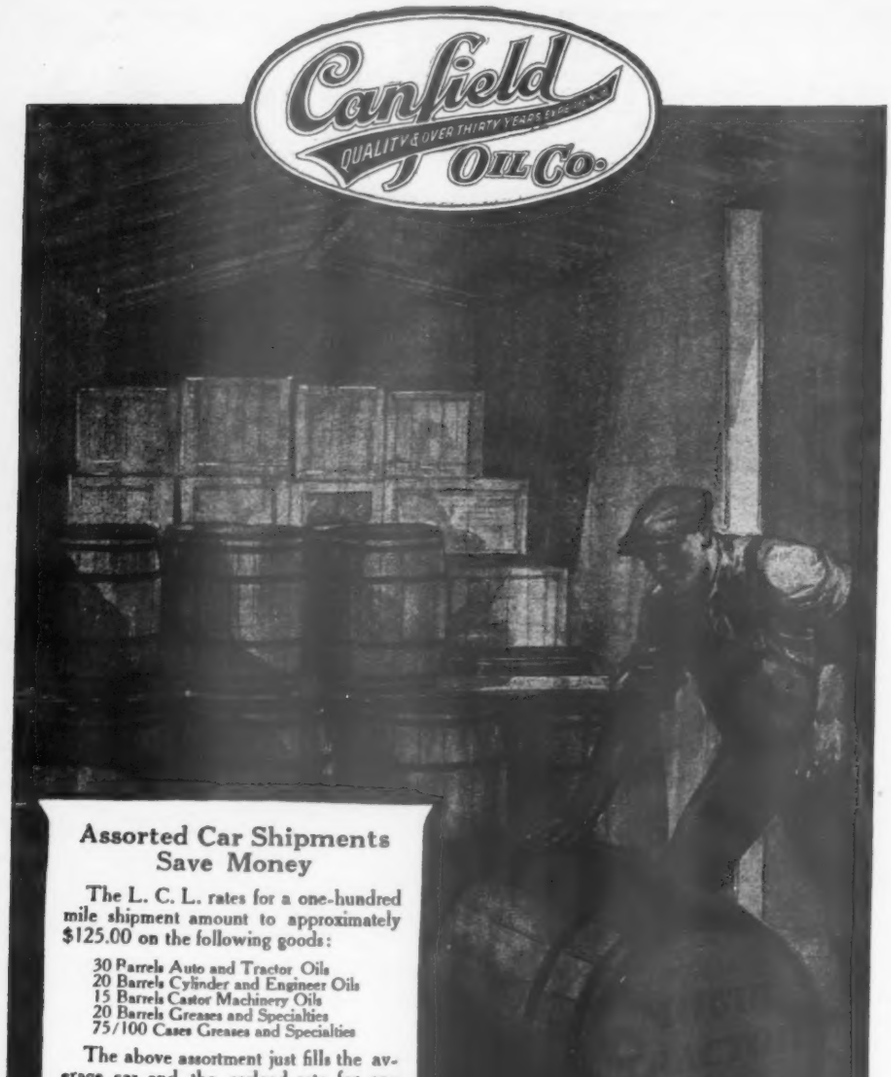

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The L. C. L. rates for a one-hundred mile shipment amount to approximately $125.00 on the following goods:

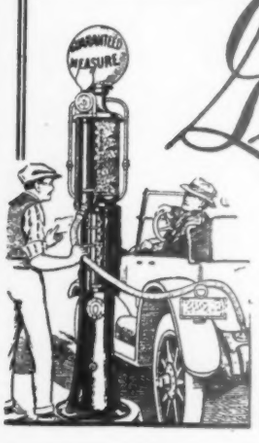
30 Barrels Auto and Tractor Oils
20 Barrels Cylinder and Engineer Oils
15 Barrels Castor Machinery Oils
20 Barrels Greases and Specialties
75/100 Cases Greases and Specialties

The above assortment just fills the average car and the carload rate for one hundred miles amounts to only $65.00.

A saving to you of $60.00 in freight charges alone by ordering an assorted car.

We make a specialty of assorted cars from our refinery and compounding plant at Cleveland.

The Canfield Oil Co. *Cleveland*



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Best for Dealer, best for Customer. Speedy and accurate, can't leak or slop over. Customer sees what he is getting.

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Guarantee Liquid Measure Co., Rochester, Pa.

ing the problem of concentration into useable quantities a limitation, placing most of the raw material beyond economic development at anywhere near the present scale of prices for motor fuels.

"If all of the soft coals and lignites consumed in this country were retorted and the volatile constituents recovered, our supply of liquid hydrocarbons would be materially added to, but would by no means fill our needs.

"The recovery of the liquid hydrocarbons from coal is more an economic than a technical problem and depends mostly upon satisfactory marketing of the residue coke and semi-coke. Doubtless the problems will be progressively solved and the recovery of motor fuels and other petroleum substitutes will be extended from the coal tax industry to which it is now confined, and be applied to a large proportion of the soft coals now consumed just as they come from the mines.

"In our oil shales we may derive a comforting sense of security as to the future in knowing that they constitute a reserve much larger than in our oil fields. Undoubtedly a considerable part of our future petroleum needs will be met from this latest resource, the development of which should be hastened by every wise means that oil from it may be available in the day of need.

"In reviewing the various resources from which our ever increasing demands might be met it leaves me with the conviction that reliance cannot be placed on any single one of them yet the cumulative effect from the vigorous developments of all would in my opinion meet all reasonable future needs for as long as they can be anticipated."

Antique Wind Jammer Orient Bound Packet

By Special Correspondent

LOS ANGELES, Oct. 7.—So serious is the shortage of transportation that the Standard Oil Company has just shipped a cargo of case goods to the Orient on an ancient sailing ship of the type commonly used years ago. Despite the gravity of the situation, the navy department in its last call for bids for fuel oil and gasoline, wants the companies to deliver the supplies at remote points, such as Portland, Seattle and Honolulu. Why it should ask this, in view of the strenuous protests the oil companies have made in the past, in which they have explained the situation fully, and in view of the fact that there are four naval tankers here on the coast which, it would seem, ought to be able to move the navy's oil without calling on the companies to overtax still further their transportation facilities.

What is known as a Thermo-Viscosity, for determining the viscosity of illuminating oils, has been developed by the C. J. Tagliabue Manufacturing Company, Brooklyn, and is now on the market. The apparatus provides a more satisfactory and convenient method of measuring the viscous flow of light oils. The auxiliary bath used in some instruments of this type is done away with. All working parts of the instrument are totally immersed.

Transportation

A good name is more profitable to us than any one such job could ever be.

Shippers who want first class tank car transportation and who realize how much money a splendid car like the Standard can save in their service are invited to learn the many detailed reasons—perhaps in a personal interview.

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Tank Cars

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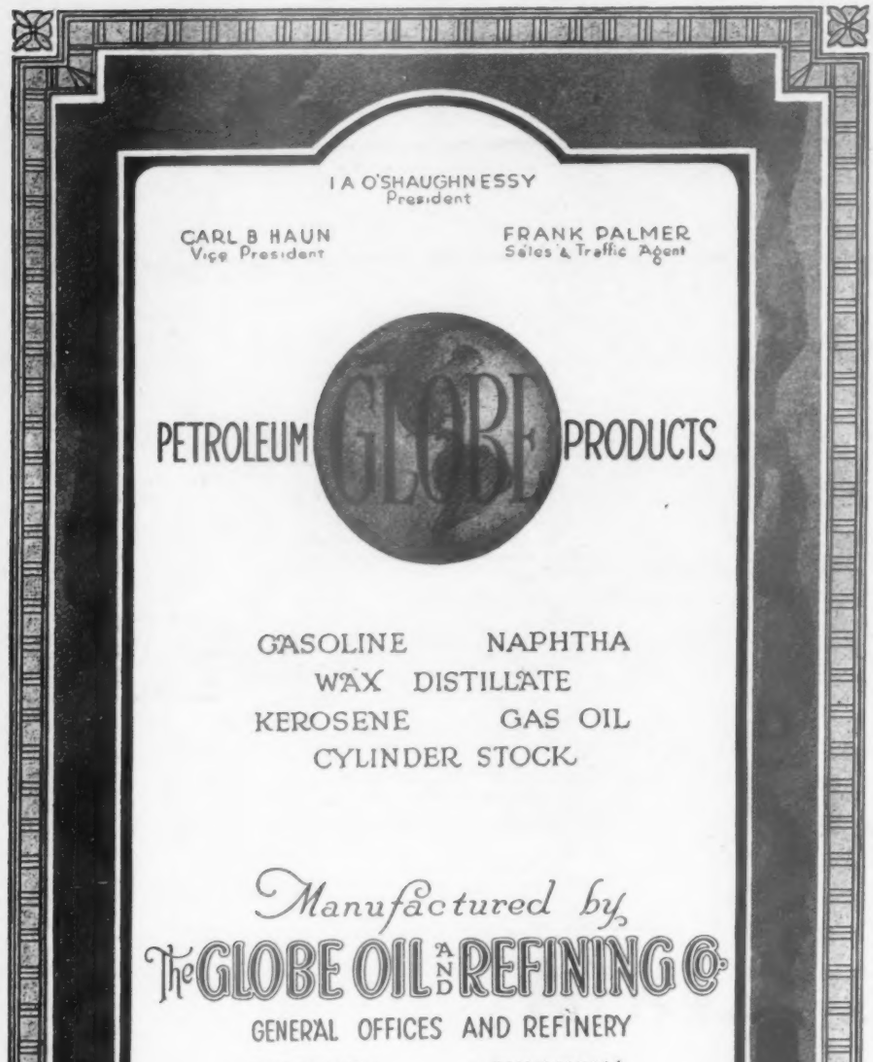


New Books

"Petroleum and Natural Gas in Indiana" is the title of a publication recently issued by the department of conservation of that state. The author, Dr. W. N. Logan, state geologist, has not only revised all the available information from old reports, but has made a survey of a large number of counties and has assembled a great amount of new material.

There is a discussion on the geological conditions in Indiana in relation to the formation and accumulation of oil and gas. The different oil sands of the state in which oil accumulates, and the section of the state in which a particular sand may be encountered, is explained.

The book contains two large maps of Indiana, one showing the present location of oil and gas areas, pipe lines and refineries. The other map is a geological map, showing the location of the outcrops of the various strata. In addition to these, there is a geological section of Indiana, and a contour map drawn on the Trenton limestone, so that knowing the elevation of any proposed well location, the approximate depth of the Trenton can be obtained.

Each county is taken up individually, with a discussion of the geological conditions of that locality and in a number of cases this is accompanied by maps of oil structures that occur in the county, and maps showing the location of oil wells that have already been drilled. Where possible, the logs of these wells have been obtained and accompany the maps.

This work, which is now available for distribution at the state geologist's office, Indianapolis, is an authentic report on the oil and gas of the state and will be of interest to everyone connected with the oil industry.

OWNERSHIP STATEMENT

Statement of the ownership, management, circulation, etc., required by the Act of Congress on August 24, 1912, of **The National Petroleum News**, published weekly at Cleveland, Ohio, for October 1, 1920. State of Ohio, County of Cuyahoga.

Before me, a notary public, in and for the State and County aforesaid, personally appeared A. W. Brobst, who, having been duly sworn according to law, deposes and says that he is secretary of The National Petroleum Publishing Company and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in Section 443, Postal Laws Regulations, printed on the reverse of this form, to-wit:

Names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, The National Petroleum Publishing Company, Caxton building, Cleveland, Ohio; editor, Warren C. Platt, Cleveland, Ohio; managing editor, V. B. Guthrie, Cleveland, Ohio; business managers, none.

Owners are: Warren C. Platt, Cleveland, Ohio; Bess H. Platt, Cleveland, Ohio; Wm. H. Little, Cleveland, Ohio; V. B. Guthrie, Cleveland, Ohio; A. W. Brobst, Cleveland, Ohio.

Known bondholders, mortgagees and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: None.

(Signed) A. W. BROBST,
Secretary.

Sworn to and subscribed before me this 30th day of September, 1920.

(Signed) BURT ZIMMERMAN,
Notary Public.

(My commission expires 8-21-21.)

PRODUCTION SECTION

Mid-Continent Bureau
408 Cosden Building
Tulsa
J. B. Gambrell, Jr., Manager

Southwestern Bureau
303 Lumberman's Bank Building
Houston
Paul Wagner, Manager

Known Pools Get Most Attention

WITH none of the wildcat tests far removed from producing territory showing anything for the past month and such new areas as have been opened up of small extent and relatively unimportant, attention is being closed in to the known pools which are now in a fair way, what with the big easing off in demand for all petroleum products, to put a considerable amount of crude oil into storage during the winter.

No considerable diminution of work is noted in the eastern fields; Texas wildcatting has long since ceased to focus much attention, except on the Gulf coast, where drilling for salt dome production is from time to time yielding results; there is a perceptible curtailment of work in Oklahoma and Kansas.

Well East of Garber Shows

Seven miles east of the Garber field, and five miles south and west of the Billings pool, a Noble county wildcat has 500 feet of oil in an 8-inch hole, with the sand barely touched. A mile and a half in advance of production in the Jennings field, on the border line of Creek and Pawnee counties, a well is showing for a commercial producer from the Bartlesville sand horizon.

Operators in the Covert-Sellers pool, Marion county, Kansas, are finding it necessary to exercise extreme caution in producing their wells, due to the rapid encroachment of water in this field. In the Urschell pool, in the same county, production has mounted to 5,000 barrels, but until greater pipe line facilities are installed it will be impossible to test out the potentialities of this territory.

Blue Ridge Assumes Importance

With the completion of a well on the salt dome structure known as the Blue Ridge field, in south Texas, rated at 2,000 barrels daily, this region takes on the appearance of a field. The West Columbia pool, with the completion of three wells north of the Abrams "gusher," is perhaps the brightest spot in the state at this time; the three recent completions combined were showing for 20,000 barrels maximum.

Louisiana Has Indifferent Week

North Louisiana not only suffered a big decline in new production during the trade week, but daily averages dropped to 81,000 barrels daily, the Homer pool output being 48,900 barrels. These figures compare with the daily production on October 1 of 86,042 barrels, at which time the Homer daily yield was 55,429 barrels.

Eastern Returns Only Small Wells

The hope of eastern operators of finding a new pool during the year appears to be denied. The week saw the usual run of completions, with the exception that none showed important initial production. The best well of the week was in Roane county, West Virginia, and was good for 100 barrels.

Somerset Crude to Be Graded

Effective Monday, the Joseph Seep Purchasing Agency announced that Somerset crude would hereafter be purchased according to quality, the designation, "Somerset Light," which is to command the top of the market for Kentucky oil, calling for crude of 38 degrees or above.

Late Field News

Staff Specials

TULSA, Oct. 11.—Amerada Petroleum Corporation's No. 2 Urschell, in the northwest of Sec. 21-21-5, Urschell pool, Marion county, Kansas, topped the sand at 2,318 feet and is making 800 barrels 3 feet in the pay. It is an offset to the National Refining Company and Merriam and Findeiss' discovery well which came in for 3,000 barrels about two months ago.

The White Eagle Oil & Refining Company has completed their 4-inch line into the Covert-Sellers field, Marion county, Kansas, and with the high flush production being shown by the wells in the Urschell pool will probably extend their line into this district, as the Prairie Pipe Line Company, who is taking this oil, has been handicapped by lack of adequate facilities, but are now laying an 8-inch gravity line into this territory. The Ramsey Petroleum Company, who recently purchased 80 acres offsetting the Prairie Oil & Gas Company well on the Jeffrey farm in Sec. 17-21-5, will start immediately drilling six wells on this acreage.

Deaner and Jamison's No. 3 in the northwest corner of the southwest of Sec. 15-11-11, southwest of Henryetta, is making 2,100 barrels at only six feet in the deep pay found at 2,656 feet. It is the second largest completion in the Henryetta district.

In the Duncan field, Stephens county, the Daw Belle Oil Company's test, in the northwest corner of the northwest of the northwest of Sec. 5-1N-9W, has a showing of oil in sand found at 1,505 feet.

Southeast of Muskogee, in the Jolly-Patton pool recently opened by John Foltz and others, the same parties have a well, in the northeast of the northeast of Sec. 7-14-10, making 700 barrels in the shallow sand found at 675 feet.

LEXINGTON, KY., Oct. 11.—The oil runs from Lee county for August, just made public, show a total of 527,370 barrels, an average per day of 17,012 barrels. The increase over July is about 1,500 barrels daily.

SHREVEPORT, LA., Oct. 8.—H. M. Sheehan, aged 60, for several years telegraph operator for the Texas Pipe Line Company, died last Wednesday of apoplexy. He is survived by three daughters.

North Louisiana Suffers Very Dull Week With Drop In Daily Average

By Special Correspondent

SHREVEPORT, LA., Oct. 8.—Out of 22 completions in the north Louisiana oil fields during the week just closed there were two gassers and six failures and 14 producing wells yielding combined initial production of 993 barrels, making it one of the lightest weeks of the year, from the standpoint of new production. The production added during the past week was just little more than one-third as much as shown during the preceding week, when there were three gassers, three failures and 16 wells, producing together 2,729 barrels.

In the matter of daily average production the past week showed a falling off amounting to 6,400 barrels, when compared to the record of the preceding seven days. The total production of the week was 81,000 barrels daily average, divided as follows: Caddo light, 8,800; Caddo heavy, 8,900; DeSoto and Red River (Bull Bayou) 14,400; and Homer district, 48,900. Caddo light increased 200 barrels; Caddo heavy decreased 200 barrels; Bull Bayou decreased 300 barrels; and Homer showed a decrease of 6,100 barrels.

A feature of the past week's completions record was the bringing in of a producing well in Penola county, Texas, by the Gulf Refining Company, with initial production 11 barrels, being its Tip Douglas No. 1, located on the Wm. Lacey H. R. survey, Bethany district, at 2,403 feet. In the immediate district in which this well was completed, pumping, only gassers heretofore were secured, and the bringing in of even a small well, altho other small production in neighboring territory had been obtained, is regarded as important.

In the DeSoto field (Bull Bayou), the Gulf Refining Company deepened its Jenkins E-2, Sec. 14-21-11, formerly listed as a dry hole, and at 2,775 feet got a producer, initial production 136 barrels, flowing.

One other completion was made by the Gulf Refining Company, which made a clean sweep as to getting only producing wells the past week, being the George West No. 30, in 20-21-7, Homer district, at 1,453 feet, 224 barrels.

The Caddo field showed three completions during the past week, all producers, with combined initial output 145 barrels, against two gassers and two producers yielding only 74 barrels the week before. The new producers are the Allen No. 1 of Trahan & Nowlin, in 23-22-15, at 1,060 feet, 40 barrels; the Banks Oil Company's Spell No. 3 in 15-21-15, at 2,485 feet, 30 barrels; and the Louisiana Oil Refining Corporation's Crye No. 4 in 22-21-15, at 2,345 feet, 75 barrels.

In the Homer district there were nine completions, four failures and five producers yielding 644 barrels, compared with two failures and seven producers yielding 2,480 barrels the preceding week. The largest completion of the past week was Jackson No. 31, of the Louisiana Oil Refining Corporation, in 24-21-8, Homer, at 1,371 feet, 300 barrels. Curtis & Nelson completed Garrett No. 6, in 18-21-7, at 1,458 feet, 50 barrels; the Homer Chief Oil Company completed Hardy No. 3, in 32-21-7, at 1,407 feet, 40 barrels; and the Standard Oil Company completed Shaw-Palmer No. 11, in 30-21-7, at 2,052 feet, 30 barrels. Following were the abandonments in the Homer district: Transcontinental Oil & Gas Company's Lay No. 1, in 35-22-6, at 3,654 feet, salt water; Fawn Creek Oil & Gas Company's Kinder No. 1, in 35-22-7, at 1,389 feet, junked; Folse et al's Harmon No. 1, in 17-21-7, at 1,556 feet, salt water; and George Baird's Gladney No. 3, in 14-20-7, at 3,040 feet, salt water.

In the Bull Bayou district, including the Gulf Company's deepened Jenkins E-2, reported above, there were six completions, one being a gasser and the other five being producers yielding 193 barrels, compared with seven wells, all producers, yielding 175 barrels of initial production during the preceding week. The gasser was DeMoss No. 1, of Atkins & French, in 34-13-11, at 2,455 feet, 5,000,000 cubic feet. The Kansas & Gulf Company got two small producers, Harp No. 4, in 35-12-11, at 2,944 feet, Bull Bayou district, six barrels, and the Nelson No. 4, in 31-13-10, at 2,836 feet, 20 barrels. The Seamans Depositors Company also got a couple of small Bull Bayou producers, namely: Polley No. 15, in 6-12-10, at 2,797 feet, and the Robinson No. 1, in 33-13-10, at 2,810 feet, yielding 25 barrels and six barrels respectively.

In Ouachita parish, Banks No. 2, of Huber et al was brought in as a gasser, 8,000,000 cubic feet, at 2,240 feet, in 36-19-4E.

In Marion county, Texas, Dempsey Brothers'-Taylor No. 1, located in the C. Simmons H. R. survey, encountered salt water and was abandoned at 2,852 feet.

More hopes were blasted in southern Arkansas, in which to date only one small producer has been recorded, when Allen et al, in Columbia county, encountered salt water in their Pickler No. 1, which was abandoned at 2,706 feet. This test was in Sect. 19-19S-22W.

Coastal Pools Make 97,635 Barrels Daily

Staff Special

HOUSTON, Oct. 7.—Gulf Coastal production at the beginning of October was at the rate of 2,929,050 barrels monthly, or a daily average of 97,635 barrels. These figures, however, includes the flush 14,000-barrel well at West Columbia of the Humble Oil & Refining Company, No. 26 Japhet, completed in the last 10 days, and rate the Texas Company's Abrams at approximately 7,000 barrels, which it had been averaging since "coming back" after ceasing to flow a few hours at the end of its forty-sixth day. Previously, the Abrams, which for weeks sustained itself at more than a 20,000-barrel daily mark, having produced at its maximum 28,750 barrels, has been responsible for the West Columbia pool in particular and the Gulf Coastal region in general reaching a recent high level of production from the time of its completion July 21, last, for nearly seven weeks.

Divided by pools, West Columbia was producing at the beginning of October at the rate of roundly 900,000 barrels monthly as compared with a steady gain from 96,364 barrels in June, 1919, to 834,776 barrels in May, 1920. Goose Creek, October 1, was producing at the rate of 450,000 barrels monthly, including two or three flush wells, as compared with 410,126 barrels in June, 1919, as against a drop to 149,362 barrels in February, 1920, and a recovery in May to 221,053 barrels. Humble pool production, which includes a number of large flush workover wells at the present time, was at the rate of 450,000 barrels, monthly total, as against 244,930 barrels in June, 1919, decreasing to 149,362 barrels in February, 1920, and recovering to 221,053 barrels in May, last.

Damon Mound, where principal production is controlled by the Sinclair Oil & Gas Company, except for one well of the Humble Oil & Refining Company making more than 1,000 barrels daily, was producing, October 1, at the rate of 220,000 barrels monthly, earlier figures not being available for comparison. Saratoga, producing at the rate of 108,000 barrels monthly, compared with 25,655 and 31,135 barrels, previously; Markham, at the rate of 4,050 barrels monthly compared with variations between 2,000 and 5,500 barrels; and Barber's Hill, with 15,000 barrels monthly to its credit was up slightly in comparison.

Sour Lake produced at the rate of 175,500 barrels monthly, compared with 200,562 barrels in June, 1919, and 175,591 barrels in May, 1920. High and low fluctations in production ranged between 159,459 barrels in February, 1920, and 201,176 barrels in July, 1919. Spindletop, which dates to the inception of Gulf Coastal salt dome development, producing at the rate of 27,000 barrels, October 1, declined from 33,351 barrels monthly in June, 1919, with a low level for the intervening period of 20,910 barrels in May, 1920.

Hull, which with West Columbia constitutes the only new Gulf Coastal development of importance in the last two and a half years, was producing at the rate of 390,000 barrels monthly, October 1, as compared with a steady increase (with some fluctuations) from 84,269 barrels in June, 1919, to 310,260 barrels in March, 1920, when the previous crest was reached. In April, however, Hull production dropped back to 195,676 barrels from the earlier peak reached in March.

These figures, except for those as of October 1 (which latter were gathered by the Houston office of **National Petroleum News** are based on railroad commission statistics utilized by W. H. Gray, of Houston, in a report compiled for the American Petroleum Institute. This report shows further with regard to the Corsicana development of Texas that production ranged from 6,171 barrels in November, 1919, to 21,006 barrels in May, 1920; **National Petroleum News** figures show the shallow Somerset pool, near San Antonio, to have been producing at the rate of roundly 30,000 barrels monthly, October 1. The Wichita Falls sand country area and the Ranger black lime territory are covered in Mr. Gray's report, but these figures in substance bear out previously printed statistics published in these columns.

Large Number Of Completions Bring 5,000 Daily Average Gain

Staff Special
TULSA, Oct. 9

AN extraordinarily large number of completions in the Hewitt field, Carter county, Osage Reservation, and Beggs district, are responsible for an increase of roughly 5,000 barrels in the estimated daily production of Oklahoma during the past week. This gain is the result of the momentum gathered in operations during the past summer, and it is believed will obtain for several weeks longer, provided weather conditions do not interfere.

Average daily production figures for Oklahoma are as follows: Cushing, 34,000 barrels; Hewitt, 31,000 barrels; Healdton, 27,800 barrels; other fields, 213,500 barrels; total, 306,300 barrels.

Despite the more hopeful situation existing in Kansas, particularly in the Urschell extension of the Florence field, Kansas, daily crude oil production shows but slight change during the past week. Lack of adequate pipe line facilities and the fear of further encroachment of water are given for the present showing of the Covert-Sellers field in Marion county, which was expected by many to swell the production figures of this state to the 100,000-barrel mark.

Total estimated daily production of Kansas for the past week is 94,100 barrels credited to the following fields: Eldorado-Peabody-Elbing-Florence, 64,800 barrels; Augusta, 9,300 barrels; other fields, 20,000 barrels.

Noble County

Chief interest in Oklahoma development at this time is centered on the Prairie Oil & Gas Company's wildcat on the Probst farm in the southeast corner of Sec. 17-22-2W, in southwestern Noble county, north of the town of Lucien. This test, located on a large block of acreage held by the Prairie, found the top of sand at 2,079 feet, and with the sand just touched has 500 feet of oil in an 8-inch hole, and scouts report it is certain to be a commercial producer when completed, but no estimate can be made until the amount of sand is ascertained.

The Prairie well is located in what is termed locally the "Polo" neighborhood, seven miles east of the Garber field, and five and one half miles south and one mile west of the Billings field.

In connection with this well it is interesting to note that a year or so ago the Sinclair Oil & Gas Company (discoverer of the Garber field) leased up a large block of acreage on structures mapped out by their geological department, in Township 22-2W. Much of this acreage and also that being held by the Prairie was about to expire and it was this that was the determining factor in the Prairie deciding to test its holdings out at the present time. Since the showing of the Prairie well, acreage prices have sky-rocketed on the belief that a second Garber field will be opened up.

Jennings Field

Latest reports from this field, located on the border line of Creek and Pawnee counties, say that the test in the southeast corner of the northeast of the southeast of Sec. 28-20-7, a half mile in advance of production to the northwest, is showing for a well in the Bartlesville sand. Should this test prove a Bartlesville sand producer, it would mark a further extension of the northwest trend of the Jennings field, which was indicated by the completion by A. D. Morton (who a couple of months ago, purchased the J. B. Grieves holdings) recently, of a large Bartlesville sand well in the southwest of Sec. 34-20-7, and who, later, completed a large caliber well on the Smith farm in the southeast corner of the northwest of the northwest of Sec. 34-20-7.

The best well completed in the proven area of the Jennings field, which has been extremely quiet for several weeks, is the Prairie Oil & Gas Company's No. 14 on the Ingram farm, in the center of the north line of the northwest of the southwest of Sec. 2-19-7, which found the Bartlesville sand from 2653-2718 feet, and is making 100 barrels after a 14-quart squib. In Sec. 24-19-7 the same company has abandoned its No. 3 on the Bland farm, at the total depth of 2,749 feet.

Beggs District

In what is termed the Misener pool, opened up by Fred Misener by a 1,100-barrel well in Sec. 23-15-10, the H. F. Wilcox Oil & Gas Company's No. 4 on the Stephney farm in the northwest corner of the southwest of the southwest of Sec. 24-15-10, found the top of the pay at 2,980 feet and is making 80 barrels an hour only 6 feet in the sand. Indications point to this well being the largest producer yet completed in the pool.

Offsetting the Prairie Oil & Gas Company's light well, which is the western out-post of the pool, the Riverland Oil Company's (composed of Tulsa operators) No. 25 in the northwest corner of the northeast of the southeast of Sec. 10-14-11, is making 250 barrels, two feet in the Dutcher sand found at 2,150 feet. While this well is an unusually large Dutcher sand producer for the territory, it has the additional advantage of the deeper Wilcox sand potentialities, as the same company's well in Sec. 11-14-11, which was completed for a 1,400-barrel Wilcox sand producer, showed for 300 barrels in the upper Dutcher horizon.

In the Phillipsville pool Waite Phillips' No. 7 on the Tucker farm in the center of the north line of the south half of the north half of the southeast of Sec. 22-14-11, is flowing 1,000 barrels from the Wilcox sand found from 2,754-90 feet. Completion of this well will raise materially the well average of this pool, which has shown a rather rapid decline in the past six weeks, but which at one time enjoyed the distinction of having the largest average per well production of any pool in Oklahoma.

In the southwest corner of the southeast of the southeast of Sec. 15-14-11, John H. Rebolds' No. 3 on the Brown farm, found the top of the Wilcox sand at 2,813 feet and is making 200 barrels after a 40-quart shot in sand from 2,813-28 feet. It is a northern edge well.

The Shaffer Oil & Refining Company's No. 2 on the Brunner farm in the northwest corner of the southwest of the northeast of the southwest of Sec. 8-14-11, found sand from 2,462-72 feet and is making 5 barrels. Completion of this light well is most disappointing in the light of the fact that this company recently completed a large well in the same section.

Osage Reservation

While acreage at the forthcoming sale is not expected to bring any phenomenal prices, due to the present tightness of money, there are several tracts that will undoubtedly bring rather fancy figures. Those particularly near the Wrightsman and Peters well, which is still making better than 1,000 barrels from the Bartlesville sand after two weeks. These tracts, Nos. 2, 3, 4, and 5, in Sects. 23 and 24-23-8, will be offered at the sale on the 12th and tract No. 4, which offsets the Wrightsman and Peters quarter section, is expected to bring the top price. Tract No. 5 offsets the shallow production opened up by Wrightsman in Sec. 30-23-9. This shallow pool with a production horizon of from 450-500 feet has proven one of the most profitable leases in the Reservation, as wells show an initial production from 75-100 barrels and settle to 5 or 10 barrels. Wrightsman and Peters now have about 2,000 barrels daily production on the two quarter sections which comprise this pool.

The Gypsy Oil Company and Phillips Petroleum Company No. 3 in the southeast corner of the southwest of the southeast of the southeast of Sec. 24-25-9, found sand from 2,024-67 feet and is making 1,000 barrels, 30 per cent of which is water. On its famous lease in Sec. 26-23-7 the Gilliland Oil Company No. 9 in the southeast corner of the section is still making 1,500 barrels in sand from 2,705-60 feet. This lease, according to pipe line runs, made more than 75,000 barrels during the month of August. The Gypsy Oil Company's No. 6 in the northwest of the northeast of the southeast of Sec. 35-23-7 is still making 2,000 barrels, according to the latest reports. As an evidence of the freakishness of line production, however, this company's No. 67, in the northeast corner of Sec. 1-21-7, which found the pay in the second break in the Mississippi line from 2,630-42

feet, has been completed as a 25-barrel well.

In Sec. 25-25-9 Foster and others No. 26 is making 500 barrels in the Bartlesville sand from 2,065-90 feet after a 170-quart shot, and the same company's No. 27 in the northeast corner of the same section is good for 100 barrels after a 200-quart shot, in sand from 2,034-2,128 feet. There were a number of other 100-barrel completions in this county during the past week.

Okfuskee County

Offsetting to the east, the 2,400-barrel well of the Kingwood Oil Company in Sec. 16-11-11, Deaner and others well in the southwest corner of the northwest of Sec. 15-11-11 found the top of the sand at 2,650 feet, and is flowing 25 barrels an hour with the pay just touched.

The Central National Oil Company's No. 9 in the northeast corner of the southwest of the southwest of Sec. 15-11-11, is making 100 barrels in sand found from 2,446-58 feet. It is the second largest completion of the week. In Sec. 33-11-11 the Kingwood Oil Company has abandoned its wildcat on the Jones farm at 2,814 feet.

Tulsa County

One and one-half miles east of the town of Owasso, Charles Page and others test is standing with 200 feet of oil in the hole, two feet in sand found at 1,610 feet. Oil is coming from the second break in the Mississippi lime and marks the first discovery of this deep pay horizon in this territory. It is expected to make a commercial producer.

Maramac District

The contention of geologists that the Maramac region is decidedly spotted and freakish, is borne out by the latest report from this territory. The R. C. Jones test on the Maramac Townsite in Sec. 5-20-5, is reported to have found the top of the Bartlesville sand at 3,010 feet and is making 1,000,000 cubic feet of gas and a little oil thru a hole full of water. Preparations are geing made to shut off top water preparatory to drilling in. This is the second well to show in the Bartlesville sand in the Maramac district, as the Pierce Oil Corporation wildcat in Sec. 16-20-5 started off at 100 barrels from this horizon. The late Maramac Oil Company and the Atlantic Petroleum Company test in Sec. 4-25 missed the Bartlesville sand, but produced from the Skinner, showing a lack of correlation in the two sections. Operators are watching the outcome with particular interest as development in this territory has been disappointing up to date.

Hewitt

The past several weeks have shown no important developments in this field, reports recording nothing but the ordinary run of inside completions. The same holds true of the past week with the exception that an unusually large number of completions were recorded, 18 wells showing an initial capacity of 5,090 barrels. Chief interest in this field is now directed to several wildcats, which are expected to go a long way towards defining the proven area of this field. The most important of these are the Empire Gas & Fuel Company's test on the Frazier farm in Sec. 6-5S-1W, which is tearing down cable tools and installing rotary at 835 feet; in Sec. 7-5S-1W, the Carter Oil Company is installing cable tools, while casing is being set at 1,653 feet, and in Sec. 16-5S-2W, south of Wilson, the Savage test is drilling at 2,740 feet, carrying 5-3/16-inch casing.

Kansas

While the exact potentialities of the Covert-Sellers field and Urschell pool of Marion county will not be known until additional pipe line facilities are completed, these two pools are receiving the bulk of attention of Kansas operators at this time. The Covert-Sellers pool now has 48 producing wells credited with a potential daily production of 13,000 barrels and 38 rigs and drilling wells, six of which are on the sand and will be drilled in within the next few days.

In the Urschell pool (eastern extension of Florence field) the National Refining Company and Merriman & Findiess No. 2 on the Urschell farm in the southeast corner of the northeast of the southwest of the southwest of Sec. 16-21-5, offsetting the discovery well, is now swabbing 70 barrels an hour. It was found that heavier swabbing brought in water and operators in this field have to be extremely careful in producing their wells.

The Atlantic Oil & Producing Company's No. 1 on the Urschell farm, which was drilled too deep and got a large dose of salt water, has succeeded in shutting off the water and is swabbing 50 barrels an hour.

The Prairie Oil & Gas Company test on the Jeffrey farm in Sec. 20-21-5, a mile and a half west of the discovery well, is being put on the swab and is expected to prove an equally good producer as the discovery well, which at six weeks old, is putting more than 1,500 barrels into the tanks daily. The first failure recorded in this field is the test of Leroy Adams on the Urschell which ran into salt water and has been abandoned.

Eastern Completions Are Of Small Variety; Somerset Is Posted By Grades

By Special Correspondent

PITTSBURGH, PA., Oct. 11.—Outside of a 100-barrel producer in the Berea grit development in Reedy township, Roane county, W. Va., the eastern fields failed to return a large producer last week. Indeed, the completions, with this exception, averaged around 6 barrels per well. Gilmer, Kanawha and Roane counties are the scene of much field work, but the operators are receiving scant reward. Even when a good well is found in old territory, operators do not wax overly enthusiastic, as completions of this nature cannot lead to any impressive expansion. It is a strictly new productiove area that the oil men seek, and 1920 holds little promise of furnishing such an area.

Beginning today Somerset oil, found in Kentucky, is being graded by the purchasing interests, an official announcement issued Saturday saying:

"The Joseph Seep Purchasing Agency and the New Domain Oil & Gas Company, Inc., purchasing agency, announce that for all Somerset oil run on and after October 11 they will make a separate posted price for oil testing 38 gravity or above, and will designate this oil as 'Somerset Light.' Although the pipe line company is unable to keep this oil separate, still they have consented to indicate on the run tickets the gravity of the oil run, and it is to be hoped that this arrangement may prove more satisfactory to the many producers who have been insisting that the wide variance in values of Somerset crude should have some recognition by the buyers."

The Seep agency in a wire to **National Petroleum News,** announced Monday that the new schedule posts a price of $4.50 for Somerset light, $4.25 for other grades of Somerset crude and $4.46 for Cabell grade. The latter is an advance from $4.17.

West Virginia Wells

The Berea grit development's 100-barrel producer is the Heck Coal Company's No. 2 well on the Seaman farm on Bushy fork, Reedy district. It started at 100 barrels natural. The well is 450 feet east of the same company's discovery well on the Hess farm. The company is due at a test on the Marshall farm and is drilling at 2,100 feet on the Staley farm. Berea grit formation wells have staying qualities and the pool has witnessed some important completions this year.

Two gassers starting at a million feet a day were brought in last week, one being the Big Marsh Oil Company's No. 3 well on the Bowman Lumber Company tract in Marsh Fork district, Raleigh county, and the other the South Penn Oil Company's No. 1 on the Young farm on Jordan's creek, Big Sandy district, Kanawha county. The Big Marsh well is a Weir sand producer and is the concern's third completion on that tract. Quite a number of test wells have been drilled in Raleigh county, but no oil has been tapped. The South Penn Company went thru the Weir sand in the hope of finding oil and struck the gas pressure in the Big Injun sand. On Elk river, Big Sandy district, the South Penn Oil Company shot its No. 12 on the Stump farm and increased its oil flow from from 20 to 40 barrels a day. The South Penn's test on the Osborne farm on Big Sandy river is a duster. The Paramount Oil & Gas Company completed and shot a Weir sand test on the Ryan farm on Big Sandy and got a 6-barrel producer.

Several important tests are under way in Union district, Harrison county, where the Vesper Oil & Gas Company got a 15-barrel producer at No. 8 on the Helmick-Myers farm. The South Penn Oil Company got light pumpers in No. 5 on the Fealy farm in Court House district, Lewis county, and at a second test on the Mick farm in Glenville district, Gilmer county. The Clarksburg Light & Heat Company is drilling two tests in Eagle district. The South Penn Oil Company's No. 1 on the Brown farm in Freemans creek district, Lewis county, came in at 5 barrels daily in the fifth sand.

Light Wells in Ohio

Wells completed in Ohio were not distinctive, altho there are some rather promising operations in Ward township, Hocking county. All late completions in the southeastern Ohio fields are located in shallow territory. In Fox township, Carroll county, the Natural Gas Company of West Virginia has completed a test on the John Morrow farm and showing for a 15-barrel pumper. This location is 2,000 feet north of production on the Jewett farm. In Section 12, Monroe township, Harrison county, the W. C. Kennedy Company has a five-barrel pumper in the Berea grit at No. 16 on the J. H. Melaney farm. In the same section, the Home Company has the same kind of a producer at No. 14 on the J. B. Brown farm.

New West Columbia Wells Turn Eyes Of Industry To Coastal Pool

Staff Special
HOUSTON, Oct. 9

UPON the behavior of three producing wells completed a quarter of a mile north of The Texas Company's Abrams, in the northwest extension to the West Columbia pool, on a Gulf Coastal salt dome, will rest the plans for future drilling in this area. The three wells are along the south line of 50 acres of loose ground, which was split into small plots after the Texas Company's Abrams had come in with a maximum of 28,750 barrels daily, producing more than 1,100,000 barrels total before ceasing its flow and which has averaged in excess of 7,000 barrels daily after "coming back" within 24 hours, producing thru the drill stem when caving shut off the outside flow.

These three wells north of the Abrams, which were reported in the October 6 issue of **National Petroleum News** were all important for their bearing upon the proving up of parts of the 50 acres held by others than the Texas Company. The Abrams tract, on which the Texas Company "gusher" is located, consists of more than 1,400 acres and that company holds other large acreage elsewhere in this territory. That the Abrams tract will not be "punctured" with holes as a result of the three wells to the north coming in as producers is a foregone conclusion, for the Texas Company is in a position to pursue rational operations and may be considered to have no desire to break the market with such a flood of oil as might result from any extensive development thereon.

What the three wells to the north of the Abrams will do in the future, however, is a matter of prime importance for the reason that they have shown for nearly 20,000 barrels, maximum production, since final completion early in the present week and should other drilling on this 50 acres prove the most of it productive a flood of oil would result for the time being, endangering the Gulf Coastal heavy oil market in a local sense.

Such a situation, however, appears more remote, at least, in the probability that the Texas Company will delay offset wells on the south of this total 50 acres until it is ascertained whether water that is showing in some of them comes merely from drilling too deep or whether it is a result of a structural condition. Most wells at West Columbia, where hydrostatic water pressure is behind the highly flush oil production, show salt water sooner or later and require to be choked down to prevent its flooding out the oil and in other cases the wells are "put on air" compressors to take care of the situation.

None of these new wells have reached this stage as yet, but the early appearance of water is significant enough that it will be watched carefully until it is known whether the influx comes from too deep drilling for a maximum of the "big pay" or whether it is responsive to structural conditions. The Abrams well, near or on the top of the dome, was drilled to total depth of 2,785 feet, whereas the three more recent completions show a dip in a quarter of a mile to the north of roughly 500 feet.

As previously reported, these three wells are the Humble Oil & Refining Company's Robertson, total depth 3,290 feet, maximum production 7,000 barrels daily; Gulf Production Company's Smith, two locations east of the Humble well, flowing at rate of 8,000 barrels from 3,301 feet, daily maximum, before sanding up at the end of five hours, this only temporarily cutting off production; Monarch Oil & Refining Company's Masterson, drilled deeper to 3,318 feet and flowing 1,000 barrels thru one and three-eighths-inch choker.

Other wells drilling on this "north 50 acres" have not reached the pay level, but some of them are nearing it and their outcome will be watched with particular interest in the Gulf Coastal territory. The Humble Oil & Refining Company has the largest block out of the 50 acres with a total for the Humble of 16 acres. The Gulf well is on a seven and a half acre block and the Monarch well is on a two and a half acre plot. Masterson and Smith have 10 acres on which they are drilling; the Simms Oil Company has a half acre; Van Pelt and others have ten-elevenths of one acre and the Crown Oil & Refining Company (White Oil Corporation) has ten-elevenths of one acre.

Operations continue quiet elsewhere in the Gulf Coastal region, with Hull the principal other comparatively new development area. In this territory, Higgins Oil & Fuel Company completed No. 2 Canter, at 2,058 feet, making 30 barrels daily of 26 gravity oil; Monarch Oil & Refining Company's No. 2 Harrison, is a 115-barrel pumper at 2,827 feet. At Batson, the Humble Oil & Refining Company abandoned No. 2 La Jarza in salt water sand at 3,238 feet; Gulf Production Company's No. 36 M. Hopkins, at Saratoga, is a 100-barrel pumper of 14 gravity oil at 996 feet, the San Bernard Oil Company's No. 7 Hooks, a workover well, pumped 75 barrels at 1,012 feet and the Weldon Oil Company's No. 13 Hooks is a 200-barrel pumper at 990 feet.

Petrolia Gasser Fills Need

Only insignificant wells and failures are reported from the sand country area along the Texas-Oklahoma boundary, adjacent to Wichita Falls. In the old Petrolia field of Clay county, where principal production has been natural gas, the Texas Company's No. 12 Martin, completed at 1,710-1,724

Blue Ridge Looking Like Field

Staff Special

HOUSTON, Oct. 9.—Gulf Production Company's C-3, Bassett Blakeley, at Blue Ridge, which had come in early in the week making 1,500,000 cubic feet of gas and spraying oil, was completed as a 2,000-barrel well October 9, at 2,747 feet. Altho mediocre production had been obtained as long as a year ago in two other tests of the Gulf Company on the northeast side of the dome, it remained for the C-3 well to definitely open up a productive spot and give Blue Ridge the appearance of a field. The Bassett Blakeley C-3 is a short distance southeast of the discovery well, which made about 400 barrels a year ago, but was afterwards an indifferent producer.

¶Actual gauge October 8 showed Humble Oil & Refining Company's Robertson well on the West Columbia 50 acres north of the Abrams well, making 11,141 barrels choked down. It was making no water. Gulf Production Company's well offsetting Monarch Oil & Refining Company's completion, was bailing fluid standing in the hole after cementing off water and the Monarch's well which had showed as high as 30 per cent B. S. and some water, was good for 1,000 barrels choked down.

¶Sinclair Oil & Gas Company, which already had material on hand for pipe line construction, has definitely announced it will build an 8-inch carrier line from its production at Damon mound to its Houston ship channel refinery. Additional steel storage will be constructed at Damon, where grade has been made for the first 55,000-barrel tank, and at the refinery. This pipe line will be constructed via Blue Ridge, providing an outlet for additional prospective production there.

feet as an 8,325,000 cubic foot gasser, with 320 pounds rock pressure, has been turned over to its natural gas department and thru sale to distributing interests will aid in the dwindling supply of this fuel for north Texas cities this winter.

Drilling to deeper levels than the old Electra pool pay in Wichita county resulted in failure for the Buffalo Texas Oil Company on the L. F. Douglass tract, 2,000 feet; Ryan Petroleum Company's No. 2 G. E. Nance, 1,847 feet and the Hazel Burk Oil Company's No. 1 Ausperger, pumping salt water at 2,570 feet.

The Burkburnett territory continues even production from more nearly settled wells with occasional completions good for from 25 to 100 barrels and little new work under way.

In the Kemp-Munger-Allen district, southwest of Iowa Park, a thin pay territory, such completions as make oil continue to be tricky to deal with because of the water trouble usually encountered with the four to six feet of sand and about an equal number of failures result along with the small pay producers.

Southern Producing Company's No. 1 S. I. Munger, in the K-M-A district, had salt water at 1,756-1,757 feet, which so far it has been unable to shut off; American Refining Company plugged to abandon No. 1 S. I. Munger at 1,755-1,756 feet and the Texhoma Oil & Refining Company's No. 5 S. I. Munger is rigging up to pump at 1,744-1,751 feet. Southward, across the line in Archer county, the Bridwell et al test on the L. F. Wilson tract, which for weeks has stood with a show, is reported swabbing a little oil at 1,647-1,675 feet.

In southern Young county, where a sand development has resulted from operations of the North American Oil & Refining Company partnership with the Roxana Petroleum Company in the so-called South Bend district, the No. 1 Boozer of these interests, which had previously showed for about 100 to 125 barrels daily, is to be shot with 60 quarts at 1,880-1,889 feet. This Young county sand development is north of the deeper black lime pay in Stephens county.

Lime Country Production

Stephens county continues to hold the lead in the black lime area, ten day average production figures as of October 1, showing its daily output to be roughly three and a half times that of the combined Ranger pool proper and Desdemona areas. Stephens county, where flush Breckenridge production is responsible for the high mark maintained over a period of weeks was good for 77,741 barrels, daily; Ranger pool proper for 14,426 barrels, and the Desdemona district for 8,505 barrels.

With the pipe lines practically full out of Breckenridge territory and the Hamon & Kell short line railroad the only carrier serving Stephens county (precluding any considerable amount of tank car shipments of crude, of which there have been none in the past) there is a possibility that flush completions adjacent to and on the Breckenridge townsite may result in a certain amount of local crude oil congestion on the part of Stephens county, especially should large flush production result in the numerous holes being plugged down around Breckenridge.

Altho lime production in the general Ranger territory has shown rapid depletion, and Stephens county is no exception to the rule, it is a fact nevertheless that the percentage of decline has not been as great in the area immediately around Breckenridge, nor has the percentage of failures, in drilling operations, been maintained to as high a degree, altho (as might be expected from town lot drilling to depths of 3,100-3,200 feet) it is only the "lucky ones" who may expect to profit to any considerable extent from intensive operations on small plots or town lots, which has been previously discussed in detail in these columns, such practices having been favorite "pastimes" of promoters and others seeking profits from stock sales.

Town Lot Well On Fire

One of the results of intensive operations and townsite drilling was the disastrous fire at Breckenridge, the night of October 5, when three persons lost their lives and for a time the town was threatened with being wiped out. Seven flow tanks and the derrick over a well of the National Oil Syndicate, on a town lot, were destroyed, also the home of County Judge J. W. Bardon and an office building of the syndicate. The well had come in, flowing by heads every 40 minutes, on blocks 15 and 16, Hanks second addition to the town of Breckenridge, five blocks west of the courthouse, before it caught fire. The control head burst from the well and three men were killed as a result of the fire: F. A. Kell, Fort Worth; Walter H. Perslow, Stockton, Ill., and Everett Higgins, Shawnee, Okla. William Brockman, a member of the syndicate, was hurled from the floor of the derrick a distance of 40 feet.

Stephens County Production

Ten day average pipe line runs from Stephens county, amounting to 78,400 barrels daily, were for the same period about 750 barrels, daily, in excess of production. Pipe line runs averaged daily:

	Barrels
The Texas Company	15,534
Gulf Pipe Line Co.	18,822
Humble Pipe Line Co.	11,050
Magnolia Petroleum Co.	16,798
Prairie Oil & Gas Co.	15,473
Sinclair Oil & Gas Co.	379
Pierce Oil Corporation	344
Total	78,400

The following is a record of the total daily production of operating interests having more than 1,000 barrels daily from their wells in Stephens county:

Magnolia Petroleum Co.	4,723
Mid-Kansas Oil & Gas Co.	2,763
Snowden Bros & McSweeney	4,671
The Texas Company	6,808
Walker & Perkins	1,689
Brown & Company	2,410
Chapman, Clark & Harben	1,470
Fensland Oil Company	1,300
Gonzales Creek Oil Company	3,000
Gulf Production Co.	5,437
Oklahoma P. & R. Co.	2,100
Plateau Oil Co.	4,600
P. A. Chapman	1,487
Cooper & Henderson	2,322
Humble Oil & Refining Co.	1,085
The Sun Company	1,361
Chapman et al	3,320
E. A. Landreth and General Prod. Company	1,950
Prairie O. & G. Company	3,385
Henry Riley et al	1,000
Texas Pacific C. & O. Company	1,904
All others	19,556
Total	77,741

Ranger-Desdemona Runs

Ranger pool proper and Desdemona district pipe line runs for the same period follow:

	Ranger	Desdemona
Texas	3,931	175
Prairie	3,528	200
Magnolia	478	3,490
Gulf	940	270
Sinclair	1,275	230
Steiner	393	...
Humble	2,231	1,080
United Producers	1,650	2,745
Sun	...	75
Gorman Home Refinery	...	240
	14,426	8,505

Burning Gas Well Causes Heavy Loss

SHREVEPORT, LA., Oct. 8. — For the past couple of days, according to advices from Monroe, about 100 miles east of here, a fire has been raging at the Spyker No. 3 gas well of the Southern Carbon Company in Morehouse parish, about one and a half miles from the company's carbon plant. The flames, it is estimated, have ascended about one hundred feet above the top of the well, whose derrick was destroyed soon after the gas became ignited. The Stovall Drilling Company suffered heavy losses, due to losses of equipment and other damage, while the owners of the well have lost an enormous volume of gas. Crews from different parts of the field have joined in the fight on the fire. What started the fire has not been definitely announced, but it is believed to have been due to an accident, one theory reported being that perhaps a rock was blown against the casing and caused a spark.

September Crude Runs Of Magnolia

Staff Special

HOUSTON, Oct. 9.—Crude oil runs for the month of September are announced by the Magnolia Petroleum Company, pipe line department, at Dallas headquarters, as follows, in barrels:

Thrall	3,822.77
Healdton crude	182,595.69
Electra crude	292,436.52
Henrietta crude	4,806.51
Cushing crude	108,811.22
Yale crude	43,907.74
Cement crude	9,037.24
Cuscan crude	185,157.21
Heavy Corsicana crude	12,586.20
Light Corsicana crude	15,170.03
Eldorado crude	61,272.76
Comanche crude	112,663.76
Olden crude	16,971.99
Coleman crude	None
Stephens crude	305,509.36
Total	1,325,746.90

TAMPICO, MEXICO, Oct. 7. — Luke Gilliam and Theo. Hicks have formed a partnership as drilling contractors. Both have had wide experience in the oil fields of the United States and Mexico. Mr. Gilliam has been assistant field superintendent for the Mexican Gulf Oil Company for the last seven years.

SHREVEPORT, LA., Oct. 8.—Complimentary to the oil and gas interests of Louisiana, Monday, November 1, has been desiginated Oil and Gas Men's Day at the fifteenth annual state fair of Louisiana, which opens October 28 and runs eleven days. Plans for a special program for oil and gas men are being considered.

Marion And Butler Counties, Kansas, Average 70,000 Barrels Daily

By J. B. Gambrell, Jr.
Editorial Manager, Mid-Continent Bureau

TULSA, Oct. 9

WITH winter weather rapidly approaching with its attendant curtailment of development and deiline in production, Kansas operators are taking stock with a view to determining the net results of the great drilling campaign launched early in this year and maintained thruout the spring and summer, despite financial restrictions, shortage of casing and other material, excessive labor cost, and numerous other obstacles.

A survey of this state reveals that while there have been a number of pools discovered, which proved important locally, there have been but two pools opened up during the present year that may be considered as bearing on the crude oil production of this state as a whole. Both of these pools (the Covert-Sellers and Urschell) are located in Marion county.

The Covert-Sellers field was opened up the latter part of March by the discovery of a 400-barrel well on the Sellers farm in township 21-5, and has been drilled up rapidly. Pipe line runs for this field for the month of August show 26 wells producing 5,525 barrels daily, and this field is now credited with a potential production of 13,000 barrels (present pipe line facilities being inadequate).

This field, while showing no water at first, is now becoming seriously affected, inside producers showing from 6 to 8 per cent, while in a number of cases, edge wells are suffering as high as 70 per cent.

It is pointed out in this connection by operators of long experience in Kansas fields that if it were possible to flow wells in this pool to capacity, they would, undobutedly, show a higher per cent of water. This factor, in the light of passed experiences with water, in Kansas fields, makes the real worth of the Covert-Sellers extremely problematical.

With the Covert-Sellers field suffering from water encroachment, operators are concentrating on the developing of the new Urschell pool, in reality an extension of the main Florence field, in 21-4E Marion county, and tho it is a little early yet to predict the potentialities of this territory, it is generally believed that this pool will develop into the greatest strike of the year. Discovered by the National Refining Company about two months ago by the completion of a 3,000-barrel well, this territory is showing all the ear marks of a real field. More recently the Prairie Oil & Gas Company has completed a well, which is considered equally as good as the discovery well, a mile and one half west and two offsets are rated as 1,500-barrel producers. Up to the present time the only discouragement encountered in developing this territory has been the failure of the Atlantic Oil & Producing Company's well offsetting the discovery well. It was drilled too deep and ran to salt water, but has been plugged back and is showing for a good well. The Adams test, however, which was drilled into salt water, has been abandoned.

Pipe line runs compiled of Marion and Butler counties, Kansas, and just now available, show the status of pools in those counties at the end of August. No authentic figures for the rest of the state have been compiled of recent date, but conservative estimates of the major companies show the production for pools other than those included in the following summary, to be about 20,000 barrels daily.

Daily pipe line runs for Marion and Butler counties for August:

	Barrels
Prairie Pipe Line Company	23,535
Empire Pipe Line Company	19,032
Gulf Pipe Line Company	545
Sinclair-Cudahy Pipe Line	7,713
Oklahoma Pipe Line	3,010
White Eagle Oil & Refg. Company	3,410
Midland Refining Company	3,849
Sterling Refining Company	4,085
Miscellaneous Refineries	2,688
Run to storage in field	3,067
Total	70,934

Pipe Line Runs For Marion And Butler Counties, Kansas, By Fields, For August

Company	Lease	No. of Wells	Production
Augusta Field			
Magnolia Petroleum Company	Wilson	2	7
Magnolia Petroleum Company	Carter	5	60
Magnolia Petroleum Company	Suits	8	122
Magnolia Petroleum Company	Palmer	11	85
Magnolia Petroleum Company	Robertson	3	55
Magnolia Petroleum Company	Kramer	15	114
Magnolia Petroleum Company	Anderson	15	228
Oklahoma P. & R. Company	Brown	5	23
Cosden Oil & Gas Company	Suits	6	26
Cosden Oil & Gas Company	Bates	8	99
Cosden Oil & Gas Company	Anderson	7	75
Prairie Oil & Gas Company	Bell	5	15
Prairie Oil & Gas Company	Scully	17	163
Empire Gas and Fuel Company	King	1	71
Empire Gas and Fuel Company	Moyle	10	11
Empire Gas and Fuel Company	Penley	12	34
Empire Gas and Fuel Company	Scully	15	203
Empire Gas and Fuel Company	Skaer	10	175
Empire Gas and Fuel Company	Starkey	6	83
Magnolia Petroleum Company	Deal	7	29
Magnolia Petroleum Company	Foster	38	221
Freed O. & G. Company	Guest	1	....
Carter Oil Company	Loomis	5	52
Safford et al	Safford	1	22
Argonia Oil Company	Safford	2	18
Paragon Oil Company	Loomis	25	153
Empire G. & F. Company	Brown	17	77
Empire G. & F. Company	Bratt	12	249
Empire G. & F. Company	Collins	4	24
Empire G. & F. Company	Cunningham	15	54
Empire G. & F. Company	Cease	5	29
Empire G. & F. Company	Crabb	1	18
Empire G. & F. Company	Curry	9	50
Empire G. & F. Company	Chance	2	12
Empire G. & F. Company	Feltham	17	172
Empire G. & F. Company	Hazlett	5	47
Empire G. & F. Company	Haskins	17	136
Empire G. & F. Company	Haines	7	52
Empire G. & F. Company	King	6	12
Empire G. & F. Company	Kirkpatrick	20	391
Empire G. & F. Company	Long	6	26
Empire G. & F. Company	Love	15	298
Empire G. & F. Company	Moyle	34	563
Empire G. & F. Company	Miller	12	171
Empire G. & F. Company	Martin	9	77
Empire G. & F. Company	Ralston	23	101
Empire G. & F. Company	Rierson	2	5
Empire G. & F. Company	Riddell	3	11
Empire G. & F. Company	Scully	11	267
Empire G. & F. Company	Smith	32	287
Empire G. & F. Company	F. H. Varner	18	62
Empire G. & F. Company	E. H. S. Varner	5	19
Empire G. & F. Company	E. C. Varner	13	90
Empire G. & F. Company	E. C. Varner	24	507
Empire G. & F. Company	Wallace	11	206
Cosden Oil & Gas Company	Beek	10	58
Freed Oil & Gas Company	Freed	1	12
Commercial Refining Company	Alexander	1	13
U. S. Mexico Oil Company	Varner	3	19
Leonard et al	Denton	15	76
Haines, S. & H.	Crabb	2	....
Mid-Kansas Oil Company	Shreve	16	100
Mid-Kansas Oil Company	Shreve	2	25
Mid-Kansas Oil Company	Purcell	3	4
Mid-Kansas Oil Company	Alexander	1	2
Mid-Kansas Oil Company	Blood	19	37
Mid-Kansas Oil Company	Schoob	1	....
National Refining Company	Denton	1	9
Okla Prod. & Rfg. Company	Brown	19	418
Oklahoma Prod. & Rfg. Company	Shreve	3	12
Oklahoma Prod. & Rfg. Company	Brown	5	23
Total—Augusta Field		697	7064

Douglas Field

Company	Lease	No. of Wells	Production
Empire Gas & Fuel Company	Elder	5	....
Empire Gas & Fuel Company	Graves	4	....
Empire Gas & Fuel Company	McCoy	1	....
Empire Gas & Fuel Company	White	1	....
Empire Gas & Fuel Company	Lichlyter	1	....
Guarantee Oil Company	Morrison	3	6
Holwood Oil Company	Holcomb	2	21
Mid-Kansas Oil Company	Miner	8	12
Mid-Kansas Oil Company	Knolenberg	7	177
Mid-Kansas Oil Company	Pattison	7	17
Mid-Kansas Oil Company	Rutherford	6	35
Mid-Kansas Oil Company	Harter	3	4
Okla. Prod. & Refg. Corp	Wilford	4	77
Prairie Oil & Gas Company	Lichlyter	1	3
Kansas Wyo. Drlg. Company	Warner	1	114
Kansas Wyo. Drlg. Company	Kruger	1	60
Stanley Hyde et al	Stanley	2	41
Total—Douglas Field		57	567

Smock Field

Cosden Oil & Gas Company	Smock	2	61
Haverhill Petroleum Company	Smock	9	161
Haverhill Petroleum Company	Marshall	1	11
Gt. Plains Oil Company	Wright	2	65
Eureka Oil Company	Knutson	3	11
Texas Company	Smock	8	196
Total—Smock Field		25	505

Weaver District

Garden & Smith	Weaver	2	7
Central Oil & Gas Co	Tague	1	....
Occident Oil & Refg. Co	Yates	1	9
Total—Weaver District		4	16

Fox-Bush Field

Carter Oil Company	Myers	1	....
Conservative Oil Company	Doyle	1	10
Davenport Petroleum Co	Bush	5	68
Draper Oil Company	Bush	2	31
Elma Oil Company	Warner	5	281
Fox-Offset Dev. Co	Fox	3	145
Garden & Smith	Bush	7	145
Garden & Smith	Price	1	103
Honey Boy Oil Company	Warner	3	207
Iowa Kansas Dev. Co	Fox	2	145
Kansas Wyo. Drlg. Co	Bush	2	29
Kansas Wyo. Drlg. Co	Paden	2	5
Kaufman & Gregg	Warner	3	145
Last Chance Oil Company	Wallace	2	81
Little Pirate Oil Company	Brush	2	17
Magna Oil Company	Bush	15	504
Magna Oil Company	Paden	4	69
Magna Oil Company	Fox	5	71
Magna Oil Company	Warner	2	34
Magic Oil Company	Bush	1	21
Manda Le Oil Company	Fox	2	5
Martle Oil Company	McCoy	5	121
Mogul Oil Company	Price	1	106
National Oil Company	Haver	4	200
Prairie Oil & Gas Company	Redford	2	47
S. & S. Oil Company	Fox	5	94
S. & S. Oil Company	Bush	3	107
S. & S. Oil Company	Haggart	1	....
Stout et al	Bush	2	147
Texas Company	Bush	8	140
Woods et al	Brown	3	56
Total—Fox-Bush Field		104	3134

El Dorado Field

Empire Gas & Fuel Company	Adams	34	310
Empire Gas & Fuel Company	Atkins	17	104
Empire Gas & Fuel Company	Ainsworth	5	44
Empire Gas & Fuel Company	Anderson	27	285
Empire Gas & Fuel Company	Adsit	17	236
Empire Gas & Fuel Company	Barnhill	22	279
Empire Gas & Fuel Company	Bancroft	17	253
Empire Gas & Fuel Company	Boyer	11	136
Empire Gas & Fuel Company	Batman	14	197
Empire Gas & Fuel Company	Chesney	71	479
Empire Gas & Fuel Company	Dickman	11	36
Empire Gas & Fuel Company	Fee	10	96
Empire Gas & Fuel Company	Faulkerson	9	113
Empire Gas & Fuel Company	Pierpont	54	532
Empire Gas & Fuel Company	Price	4	16
Empire Gas & Fuel Company	Pirtle	2	11
Empire Gas & Fuel Company	Ralston	29	94
Empire Gas & Fuel Company	Ralston-Robinson	9	40
Empire Gas & Fuel Company	Stokes	81	691
Empire Gas & Fuel Company	Stagner	3	7
Empire Gas & Fuel Company	Stapleton	25	320
Empire Gas & Fuel Company	Thompson	2	11
Empire Gas & Fuel Company	Finney	30	320
Empire Gas & Fuel Company	Gussman	9	52
Empire Gas & Fuel Company	Hegberg	77	1092
Empire Gas & Fuel Company	Howe	33	169
Empire Gas & Fuel Company	Houston	19	166
Empire Gas & Fuel Company	Hess	14	353
Empire Gas & Fuel Company	Hull & Higgins	18	141
Empire Gas & Fuel Company	Koogler, T-3	13	306
Empire Gas & Fuel Company	Koogler, T-5	1	14
Empire Gas & Fuel Company	Kirkpatrick	13	189
Empire Gas & Fuel Company	Kirkpatrick	5	91
Empire Gas & Fuel Company	Knox	22	602
Empire Gas & Fuel Company	Lister	21	214
Empire Gas & Fuel Company	Marsh	40	175
Empire Gas & Fuel Company	Murphy	60	151
Empire Gas & Fuel Company	Murry	8	15
Empire Gas & Fuel Company	Manning	10	49
Empire Gas & Fuel Company	Moler	21	269
Empire Gas & Fuel Company	Hickelger	7	44
American Oil Company	Suttle	3	55
Atlantic Petroleum Company	Denton	2	....
Marigold Refg. Company	Oldham	6	176
National Cities Oil Company	Oldham	2	4
National Cities Oil Company	Beaumont	2	....
Big Chief Oil Company	Tracts	1	....
Bois D' Arc	Tracts	1	....
Brit.-Amer. & Wich. Indep	Millheiser	5	56
Cassoday Oil Company	Millheiser	7	103
Carter S. W. Pet. Co	Mills	27	269
Carter S. W. Pet. Co	Opperman	5	45
Carter S. W. Pet. Co	Patterson	4	27
Carter S. W. Pet. Co	Wilson	29	414
Carter S. W. Pet. Co	Robinson	18	102
Carter S. W. Pet. Co	Hull & Higgins	6	31
Carter S. W. Pet. Co	Atkins	5	64
Carter S. W. Pet. Co	Criner	5	97
Carter S. W. Pet. Co	Dillenbeck	2	12
El Dorado Oil & Gas Co	Dillenbeck	5	16
Foster et al	Cook	7	308
Foster et al	Geddes	1	....
Gilliland Oil Company	Draper	8	....
Gypsy Oil Company	Hazlett	38	320
Galbraith et al	Atkins	3	257
Galbraith et al	Marley	1	28
Frazier et al	Allen	5	99
Frazier et al	Robinson	1	....
Hickory Oil Company	Tracts	1	....
National Refg. Co	Mills	30	97
National Refining Company	Dillenbeck	6	76
Prairie Oil & Gas Company	Baker	2	75
Shaffer at al	Robinson	34	130
Selby Oil Company	Thomas	7	267
Selby Oil Company	Smith	1	14
Sinclair Oil & Gas Company	Linn	35	86
Sinclair Oil & Gas Company	Adams	67	128
Sinclair Oil & Gas Company	Dillenbeck	12	25
Superior	McGinnis	1	....
Standard Oil Company	Robinson	3	50
Skelly et al	Draper	13	241
Skelly et al	Holderman	1	....
Skelly et al	Page	5	147
Tuloma Oil Company	Dillenbeck	3	....
Tidal Oil Company	Dillenbeck	11	80
Union Oil Company	Hill	31	88
Victoria Oil Company	Graham	13	94
Total—El Dorado Field		1370	12,783

Towanda Field

Empire Gas & Fuel Company	Abrahams T "A"	10	410
Empire Gas & Fuel Company	Abrahams T "B"	3	184
Empire Gas & Fuel Company	Abrahams T "C"	11	198
Empire Gas & Fuel Company	Blair	18	313
Empire Gas & Fuel Company	Cardy	19	253
Empire Gas & Fuel Company	Ellis	2	11
Empire Gas & Fuel Company	Enyart	74	2644
Empire Gas & Fuel Company	Fowler	5	131
Empire Gas & Fuel Company	Hamilton	22	342
Empire Gas & Fuel Company	Koogler T-2	1	....
Empire Gas & Fuel Company	McClure	4	10
Empire Gas & Fuel Company	Paulson	66	1344
Empire Gas & Fuel Company	Reilly	8	112
Empire Gas & Fuel Company	Shriver	24	161
Empire Gas & Fuel Company	Tague	5	22
Atlantic Petroleum Company	Parker	4	30
Bradford et al	Richards	28	132
Carter & S. W. Pet. Corp	Woodward	9	42
Carter & S. W. Pet. Co	Phillips	3	....
Carter & S. W. Pet. Co	Borter	42	812
Carter & S. W. Pet. Co	Davis	17	124
Carter & S. W. Pet. Co	Orban	32	212
Central West Pet. Co	Clark	3	....
Derby et al	Kappes	1	....
El Dorado-Towanda	Bishop	1	....
Producers Supply	Ralston	8	76
Penn-Kansas	Williams	3	....
Penn-Kansas	McGinnis	1	....
Penn-Kansas	Kappes	1	10
Guymon et al	Watts	2	78
Gypsy Oil Company	Shumway	42	656

Company	Lease	No. of Wells	Production
Sinclair-Markham	Demsey	1	41
Magnolia Petroleum Company	Stapley-Clark	2	....
Patton et al	Watts	5	162
Prairie Oil & Gas Co	Shreve	5	Abandoned
Paragon Oil Company	Enyart	12	81
Ramsey Petroleum Company	Harmon	19	390
Revert Oil Co	School Lot	2	....
Selby Oil Co	Mabry	11	115
Union Oil Co	Denny	12	28
Union Oil Co	Sargeant	7	157
Wichita Augusta	Simpkins	3	....
Wrightsman et al	Marshall	4	18
Total—Towanda Field		**552**	**9299**

Koogler Field

Empire Gas & Fuel Company	Houston	13	145
Empire Gas & Fuel Company	Koogler T-4	28	392
Empire Gas & Fuel Company	Koogler T-1	10	376
Empire Gas & Fuel Company	Koogler T-6	5	43
Empire Gas & Fuel Company	Kiser	3	30
Atlas Petroleum Company	Suttle	7	93
Carter & S. W. Pet. Co	Mills	5	50
Carter & S. W. Pet. Co	Koogler	2	24
Leonard Petroleum Co	Kinney	2	68
Leonard Petroleum Co	Parks	1	13
Magnolia-Page Lewis	Koogler	62	1433
Okla P. & R. Co	Brown	7	15
Theta Oil Company	Hill	5	56
Webb-Magnolia	Koogler	8	100
Total Koogler Pool		**158**	**2838**

Wilson-Dunkle Field

Empire Gas & Fuel Company	Wilson	114	2414
Crosby et al	Wilson	6	....
Hazlett	Ramsey	4	....
Hazlett	Dunkle	7	43
Prairie Oil & Gas Company	Wilson	8	110
Ramsey Pet. Company	Dunkle	8	80
Total—Wilson-Dunkle Field		**147**	**2647**

Robinson Field

Aurora-Borealis	Stone	10	160
Carter & S. W. Pet. Corp	Stone	15	72
Penn-Kansas	Hewett	3	,
Gypsy Oil Company	Guinn	4	....
Gypsy Oil Company	McGinnis	2	....
Gypsy-American	Cameron	12	111
Gypsy-Phillips	Cameron	5	80
Phillips Petroleum Co	Bend	6	90
Phillips Petroleum Co	Bend	1	....
Phillips Petroleum Co	Guinn	3	82
J. K. D. Shaffer	Cameron	2	28
Silverleaf	Warren	1	....
Theta Oil Company	Robinson	22	337
Total—Robinson Field		**86**	**1621**

Sluss Field

Engleman Oil Company	Salem	2	7
Haverhill Pet. Company	Brenner	6	165
Haverhill Pet. Company	Mossman	1	....
Hyde et al	Sluss	1	....
Fidelity Oil & Rfg. Co	Sluss	4	149
Fidelity Oil & Rfg. Co	Mossman	1	26
Inland Oil Company	Sluss	8	94
Sinclair-Markham	Faulkenberg	5	43
Mid-Kansas Oil Company	Bisaugo	8	549
Inter Sea Serv. Corp	Bisaugo	5	154
Marigold Refg. Co	Ungar	2	3
Pure Oil Co. (formerly Ohio Cities)	Sluss	3	16
Liberty Oil Company	Sluss	5	76
Liberty Oil Company	Webber	1	....
Skelly et al	Sluss	3	114
Stanley Oil Company	Simpson	1	6
Prairie Oil & Gas Company	R. Wilson	1	....
Total—Sluss Field		**57**	**1402**

Potwin Field

Crawford et al	Moore	4	104
Carter & S. W. Pet. Co	Wilkinson	1	16
Mid-Kansas Oil & Gas Company	Wilkinson	1	10
Potwin Oil & Gas Company	Joseph	5	100
Ryan-Murphy-Slater	McGill	4	41
Okla. Prod. & Refg. Corp	Maxwell	4	....
Prairie Oil & Gas Company	Moore	1	22
Security Oil & Gas Co	Hughes	1	....
Security Oil & Gas Company	Sipher	1	11
Security Oil & Gas Company	Maxwell	1	....
Snowden Bros	Joseph	1	20
Fitch et al	Suorf	1	19
Total—Potwin Field		**25**	**343**

Company	Lease	No. of Wells	Production

Elbing Field

Carter & S. W. Pet. Co	E. A. Lewis	1	5
Carter & S. W. Pet. Co	Ferrier	4	214
Carter & S. W. Pet. Co	Dedrick	1	10
Elbing Oil & Gas Company	Laydig	3	39
Empire Gas & Fuel Company	Lathrop	17	3630
Gypsy Oil Company	Spanden	5	47
Gypsy Oil Company	Eyestone	3	10
Gypsy Oil Company	Kehr	3	67
Gypsy Oil Company	Ferrier	1	10
Kansas-Gulf Oil Company	Liggett	1	11
Long Green Oil Company	Ferrier	7	390
National Refining Company	Eyestone	6	62
National Refining Company	Lathrop	25	2633
Okla. Prod. & Rfg. Corp	Ferrier	7	616
Prairie Oil & Gas Co	Vervynek	1	16
Pure Oil Co	Ferrier	9	429
Phillips Pet. Co	Haupt	1	34
Phillips Pet. Co	Paris	7	580
Phillips Pet. Co	Supernaugh	5	441
Phillips Pet. Co	Scully	11	1763
Ramsey Pet. Co	Lathrop	8	768
Ramsey Pet. Co	Hins	1	....
Ramsey Pet. Co	Scivner	2	108
Shryock et al	Paris	9	720
Shryock et al	Thomas	1	60
Sinclair Oil & Gas Co	Furman	11	261
Sinclair Oil & Gas Co	Holden	1	....
Sinclair Oil & Gas Co	Dedrick	2	15
Stern et al	Ferrier	4	100
Transcontinental Oil Co	Ferrier	2	....
Transcontinental Oil Co	Kehr	1	28
Texhoma Pet. Co	Holden	4	98
Texhoma Pet. Co	Supernaugh	1	....
Texhoma Pet. Co	Hawk	7	485
Twin State Oil Company	Paris	1	11
Texas Company	Lathrop	1	....
Tidal Oil Company	Frawley	1	....
Ward et al	Leydig	8	336
Total—Elbing Field		**183**	**13,997**

Peabody Field

Atkins	Carmichael	1	....
Buffalo Oil Company	Clark	4	477
Buffalo Prod. Company	Jolliffe	2	23
Carter & S. W. Pet. Co	Ed. Lewis	1	16
Derby et al	Larson	6	400
Farmers National Bank, Topeka	Jolliffe	1	....
Mountain Gulf Oil Co	Clark	2	86
Mountain Gulf Oil Co	Rodner	1	....
National Refg. Co	Evans	3	29
National Oil Company	Clark	1	160
Orlando Pet. Company	Jollide	5	46
Orlando Pet. Company	Gillette	4	710
Orlando Pet. Company	Burton	8	1826
Orlando Pet. Company	Brooks	3	120
Orlando Pet. Company	Ennstadt	2	....
Orlando Pet. Company	Sinex	3	58
Pure Oil Company	Nonkin	2	16
Peabody Pet. Co	Burton	3	526
Phillips Pet. Co	Larsen	5	474
Pearce and Pearce	Clark	3	10
Pearce and Pearce	Burton	2	74
Pearce and Pearce	Jolliffe	1	....
Texas Company	Larsen	1	12
Watchorn et al	Jolliffe	16	1484
Watchorn et al	Townsend	1	345
Watchorn et al	Walbie	1	....
Total—Peabody Field		**82**	**6892**

Covert-Sellers Field

Bird & Titus	Miller	2	1032
Carter O. & Ward	Sellers	4	390
Gypsy Oil Company	Hildreth	1	425
Marigold Oil & Rfg. Co	Piper	1	309
National Refg. Co	Stovall	7	874
Ramsey Pet. Co	Miller	2	1520
Sanford and Ward	Piper	1	233
Ward et al	Covert	7	717
White Oil Corp	Sellers	1	25
Total—Covert-Sellers Field		**26**	**5525**

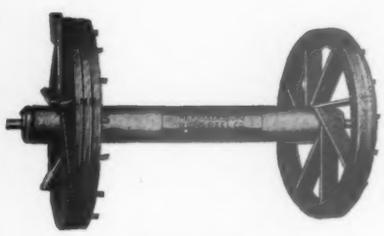
Florence Field

Robinson & Loriaux Oil Company	Greeley	4	89
Empire Gas & Fuel Company	Allison	1	21
National Refg. Company	Urschell	1	1511
Total—Florence Field		**6**	**1621**

Eastern Butler County Field

Cattlemens Oil Company	Blankenship	4	133
Cowpunchers Oil & Gas Co	Blankenship	2	40
Dawn Bittler	Clark	1	....
Liggett et al	Hughes	2	101
Miller et al	Hughes	1	....
County Border Oil Co	Hughes	3	356
Columbus Oil & Securities Co	Young	1	50
Total—Eastern Butler County Field		**14**	**680**

Total—Wells and Production for Marion and Butler Counties, Kansas for Month of August	**3593**	**70,934 bbls**
Estimated Daily Amount of Fuel used on Leases		**4,000 bbls.**



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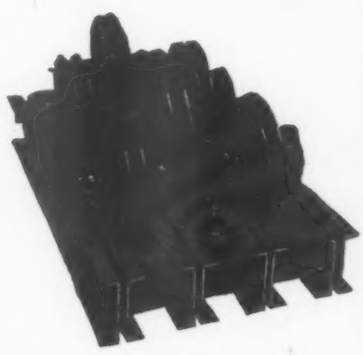

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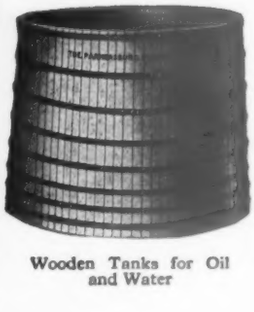

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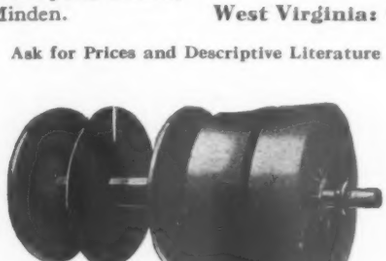

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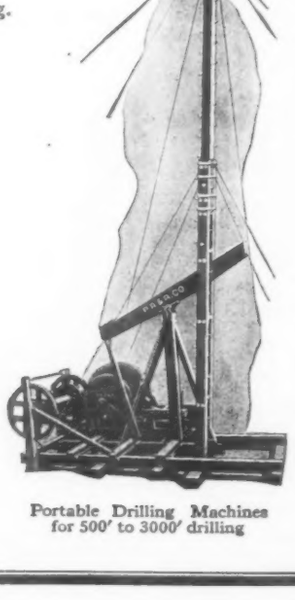


Portable Drilling Machines for 500′ to 3000′ drilling

No Lessening Noted In Kentucky Drilling

By Special Correspondent

LEXINGTON, KY., Oct. 11.—With new work just keeping pace with the completions in all fields of Kentucky, no diminution of activity has been noted, notwithstanding the cut in operations in other fields of the United States, in some instances due to the approach of winter.

During September, 223 wells were completed in Kentucky, including 13 dry holes and six gas wells. New production amounted to 6,260 barrels.

Operators in the southwestern part of the state, having fully demonstrated that while production will not be sensational, development will yield a good profit, continue to mark up a goodly number of producers each week and the past week was no exception. An increase in operations in Allen county is noted, reports from there saying that at the close of September about 200 tests were drilling. These are included in the 1,114 rigs at work in all fields of the state at the close of September.

Reports from Simpson county say a big increase in activity there has taken place within the past two weeks and that acreage is changing hands at good prices. Five good completions have been had there the past two weeks and something like 60 wells are drilling.

Allen County

One of the best defined oil geological structures in the Kentucky fields is found near Mt. Aerial, where there are seventeen wells within three miles to the east and west with not one dry hole. Twelve rigs are now working and others are preparing to go in.

Jenny & Wright have a 20-barrel well at No. 5, T. B. Goodrum lease. The well is 380 feet deep.

Dye Brothers have moved a rig onto the W. L. Watkins lease and will begin drilling at once.

Frank Laker is sinking No. 1, Edgar Mitchell lease, and is down 50 feet.

Hill, Rock & McGilvray have a good well at No. 5, Bergen lease. Its capacity has not been officially reported. This syndicate's five wells have filled several tanks. More are being built.

The Phoenix Oil Producing Company is down 250 feet at No. 1, M. C. Finn lease.

Lee County

Stidham, Porter and others report Nos. 1 and 2, W. Hobbs lease, worth 10 barrels each.

The Swiss Oil Corporation's No. 5, Trauble heirs, and No. 1, Wm. Treadway lease are reported dry.

The Excell Oil Company's No. 4 F. B. Williams lease, shows for 10 barrels.

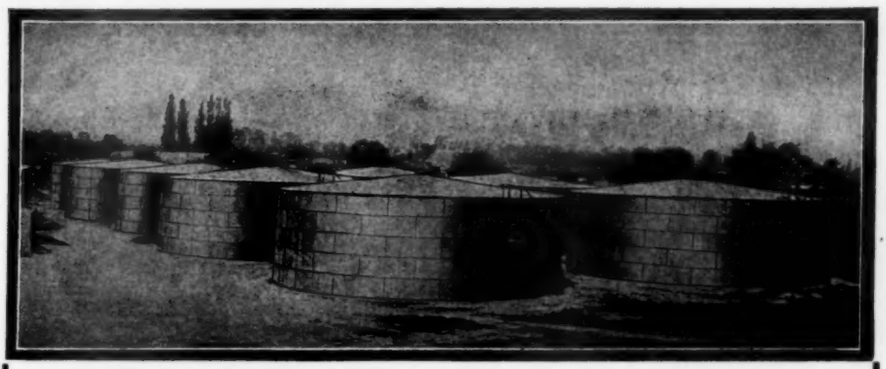
The Major Jones Oil Company has a 10-barreler at No. 2, W. G. Hobbs lease.

The Security Producing & Refining Company's No. 11, M. M. Estes lease, is a 5-barreler, as is the Superior Oil Corporation's No. 6, M. L. Rogers lease.

Warren County

The W. D. Perry well No. 1, in the western edge of Bowling Green, is pumping 100 barrels daily.

The Irish Oil Corporation has in No. 4, Apple and Townsend lease, but the



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capacity is not reported. The corporation, which is controlled by Kellar Brothers, has a 40-barreler on the Hiley Spencer lease, Allen county, at 425 feet.

Hieatt and associates report well No. 2, Stone lease, will be in this week. Their No. 1 is on the pump and is showing 150 barrels a day.

Byron Brooks, manager for the Superior, Wis., syndicate drilling in Warren county, reports No. 2, Reynolds lease, in at 515 feet and worth 20 barrels. A good showing is reported on the Pruitt lease, same county.

Fred Pederson reports his well on the L. T. Howell lease, which for eight minutes produced a barrel a minute, but has since settled down to flow. Its capacity has not been officially tested, but the well is believed worth 20 barrels.

Hieatt & Tichenor have had the tools in the well on the Ferguson lease removed, after they had been fastened in the well for twelve weeks. Drilling will be continued; the well is now down 390 feet.

The Sledge Oil Company has a 15-barreler at No. 8, T. C. Sledge lease, at 457 feet. There was 22 feet of sand. There are seven other wells on this lease, all being producers. Well No. 9 is being drilled.

H. Kerstatter and R. Veitch shot No. 1, Jennie Briggs lease. The well is in at 1,164 feet and has 16 feet of pay. Five hundred feet of oil came up in the hole at the shot.

The Harry Ennis Syndicate has a 60-barrel well at No. 1, Porter lease, Davenport pool, with 18 feet of good pay.

Pratt & Wiggington report No. 1, Crowe lease, in at 436 feet, and estimated at 35 to 40 barrels.

The Rex-Pyramid Oil Company's No. 1, Swetnam lease, Lawrence county, is a 5-barreler.

C. A. Leeper and others have a 3-barreler at No. 8, Cogar lease, Wayne county.

Rigsby-Stephenson and others report No. 2 well in Lawrence county, in at 5 barrels.

The Balmer well in Todd county, drilled by A. T. Combs, is shut down at 615 feet. Some gas was found at 530 feet.

The Keaton Oil & Gas Company reports No. 5, Jesse Lyons lease, Johnson county, worth 25 barrels.

The Fort Henry Oil Company reports a 20-barreler at No. 5, W. P. Isaacs lease, Jackson county. This is comparatively new territory.

Longnecker & Carpenter report No. 3, Martha Botts lease, Menifee county, worth 50 barrels. The Ohio Oil Company's No. 15, Howard Osborne lease, same county, is worth 35 barrels. The Carter Oil Company has a 15-barreler at No. 4, J. T. Power lease, same county, while R. L. Hall and associates have a 10-barreler on their Henry Jones lease, same county.

George Morrison and associates have a 50-barreler at No. 4, Phelps lease. It came in at 450 feet.

Floyd Creasy, representing a Chicago syndicate drilling in Cabell Gardens, outskirts of Bowling Green, has a good showing at 143 feet.

The Leatherwood Oil Company reports a 30-barrel well on the Russell lease. Oil stood 75 feet in the hole before the shot, and after the shot the oil was bailed for some time without reducing the amount standing.

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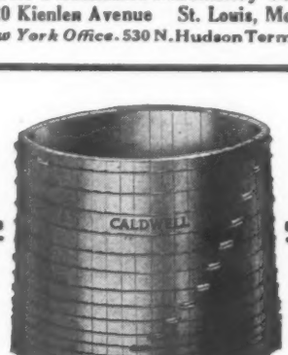

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Domestic Crude Production Gains And Big Imports Feature August Summary

By Special Correspondent

WASHINGTON, Oct. 10.—Featuring the monthly summary of crude production for August, compiled by the U. S. Geological Survey under the direction of G. B. Richardson, are the figures on imports of crude. These amounted to more than 10,000,000 barrels, the largest quantity ever brought into this country in one month, exceeding the July figures by more than 4,000,000 barrels. Stocks of Mexican petroleum held in this country by importers increased 1,125,000 barrels in the month.

Oklahoma led the way as usual in domestic crude production with a daily average of 302,355 barrels daily as compared with 300,903 barrels daily in July and 301,634 barrels daily in June. California production reached the imposing daily figure of 290,226 barrels, against the daily average of 276,871 barrels in July.

Central and northern Texas continued its decline in August, the daily average being 190,129 barrels, a drop from 193,839 barrels daily in July, which in turn may be compared with the daily average of 196,266 barrels in June.

Kansas recorded a gain in daily averages, the August figures being 119,871 barrels against 116,806 barrels in July. Pennsylvania production lost, daily averages in August being 20,613, while in July the average was 20,968 barrels. The production by states for three months was as follows:

Petroleum produced in the United States in June, July and August, 1920 (in barrels of 42 U. S. gallons)

State	August, 1920		July, 1920a		June, 1920	
	Total	Daily Average	Total	Daily Average	Total	Daily Average
Oklahoma	9,373,000	302,355	9,328,000	300,903	9,049,000	301,634
California	8,997,000	290,226	8,583,000	276,871	8,190,000	273,000
Texas:						
Central and Northern	5,894,000	190,129	6,009,000	193,839	5,880,000	196,266
Coastal	2,264,000	73,033	2,160,000	69,678	1,908,000	63,600
Total Texas	8,158,000	263,162	8,169,000	263,517	7,796,000	259,866
Kansas	3,716,000	119,871	3,621,000	116,806	3,517,000	117,233
Louisiana:						
Northern	b3,374,000	108,838	b3,294,000	106,258	b3,116,000	103,867
Coastal	144,000	4,645	137,000	4,419	134,000	4,467
Total Louisiana	3,518,000	113,483	3,431,000	110,677	3,250,000	108,334
Wyoming	1,524,000	49,161	1,586,000	51,161	1,625,000	54,167
Illinois	924,000	29,806	925,000	29,839	931,000	31,033
Kentucky and Tennessee	774,000	24,968	749,000	24,161	754,000	25,133
West Virginia	688,000	22,194	673,000	21,710	695,000	23,167
Ohio:						
Central and Eastern	469,000	15,129	461,000	14,871	463,000	15,433
Northwestern	189,000	6,097	196,000	6,323	191,000	6,367
Total Ohio	658,000	21,226	657,000	21,194	654,000	21,800
Pennsylvania	639,000	20,613	650,000	20,968	648,000	21,600
New York	79,000	2,548	80,000	2,580	89,000	2,967
Indiana	77,000	2,484	79,000	2,548	80,000	2,666
Colorado	10,000	323	9,000	291	10,000	334
Montana	c 9,000	290	8,000	258	7,000	233
	39,144,000	1,262,710	38,548,000	1,243,484	37,295,000	1,243,167

a Revised. b Includes some Homer crude drawn from storage, which was produced in previous months but not heretofore credited to production. c Cat Creek field not included.

A gain in stocks of domestic crude of 831,000 barrels was recorded, the increase in the Mid-Continent field (including Oklahoma, Kansas, central and north Texas and north Louisiana) being 1,592,000 barrels. California stocks decreased 968,000 barrels over the month while a loss of 26,000 barrels was noted in Kentucky crude stocks and a loss of 167,000 barrels in Illinois stocks. The following table gives the situation in regard to stocks:

Stocks of domestic crude petroleum held on the last day of the month by pipe-line and other marketing companies (in barrels). (Classification used in previous months, for comparison).

	August 13, 1920	July 31, 1920a	June 30, 1920	Increase or Decrease During August, 1920
Appalachian-N. Y., Pa., W. Va., Eastern and Central Ohio	3,019,000	2,985,000	3,189,000	+ 34,000
Appalachian-Ky	911,000	937,000	894,000	− 26,000
Lima-Indiana	1,547,000	1,439,000	1,355,000	+ 108,000
Illinois b	3,237,000	3,404,000	3,578,000	− 167,000
Mid-Continent-Okla.-Kans., Central and N. Tex. and N. La	87,273,000	85,681,000	82,742,000	+1,592,000
Gulf-Coast	10,612,000	10,377,000	10,722,000	+ 235,000
Rocky Mountain	251,000	228,000	223,000	+ 23,000
California c	22,149,000	23,117,000	24,060,000	− 968,000
	128,999,000	128,168,000	126,763,000	+ 831,000

a Revised. b Includes some Lima-Indiana oil stored in Illinois.
c See explanation in text above table.

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August Summary, Production, Deliveries and Stocks of Crude Petroleum
(Continued from preceding page)

Comparison of daily average production, showing daily gain or decrease in stocks:

	Delivered Daily to Consumers	Daily Average Production	Gain or Loss of Daily Production over Deliveries
Appalachian	85,193	85,452	+259
Lima-Indiana	5,097	8,581	+1,484
Illinois	35,193	29,806	—5,387
Mid-Continent	669,839	721,193	+51,354
Gulf Coast	70,097	77,678	+7,581
Rocky Mountain	49,032	49,774	+742
California	321,453	290,226	—31,226

In compiling statistics on stocks of crude petroleum held in this country, the Geological Survey introduced a new method, including in the August computations gross stocks, net stocks, and stocks in lines. The gross stocks include barrelage in lines and in tank farm storage before deductions for water and b. s. are made, the net figures showing stocks after such deductions have been made. This classification is as follows:

(1) Pipe-line and tank-farm stocks of domestic crude petroleum held on August 31, 1920, by pipe-line and other marketing companies east of California (in barrels).

Field Source of Stored Oil	Gross Stocks	Net Stocks	Petroleum in the Lines	Net Balance (held in tanks)
Appalachian-N. Y., Pa., W. Va., Eastern and Central Ohio	3,158,490	2,913,436	568,742	2,344,694
Appalachian-Ky.	929,969	873,073	195,413	677,660
Lima-Indiana	1,573,561	1,197,217	270,341	926,876
Illinois	3,918,566	3,370,203	983,952	2,386,251
Mid-Continent-Okla.-Kans., Central and N. Tex. and N. La.	90,316,238	80,106,268	6,666,376	73,439,892
Gulf Coast	10,675,997	9,400,391	169,688	9,230,703
Rocky Mountain	483,558	479,566	90,349	389,217
California (stocks not yet classified)	.....	.....	.....	.....
	111,056,379	98,340,154	8,944,861	89,395,293

Imports and exports of mineral crude oil, (in barrels)
(Compiled from the records of the Bureau of Foreign and Domestic Commerce)

	August, 1920		July, 1920		Jan.-Aug., Inclusive 1920	Jan.-Aug., Inclusive 1919
	Total	Daily Average	Total	Daily Average		
Imports:						
Mexico	10,724,686	345,958	6,768,210	218,329	56,498,104	33,115,875
Other Countries	66,000	2,129	.....	.....	69,978	69,761
	10,790,686	348,087	6,768,210	218,329	56,568,082	33,185,636
Exports:						
Canada	418,674	13,506	346,757	11,186	4,121,101	1,564,546
Other Countries	114,264	3,686	354,883	11,448	1,076,784	283,389
	532,938	17,192	701,640	22,634	5,197,885	1,847,935
Excess of imports over exports	10,257,748	330,895	6,066,570	195,695	51,370,197	31,337,701

Classification of Imports of Mexican Petroleum

Returns received by the United States Geological Survey directly from importers show the following classification of imports of Mexican petroleum for June, July, and August, 1920:

	Percentage of Total Mexican Imports		
	June	July[a]	August
Light Mexican crude oil	50	47	54
Heavy Mexican crude oil	27	23	29
Topped Mexican crude oil	23	30	17

a Revised.

Stocks of Mexican petroleum held in the United States by importers (barrels)

	June 30, 1920	July 31, 1920	August 31, 1920
Atlantic coast stations:			
Mexican crude oil	1,251,121	888,783	1,668,421
Topped Mexican crude oil	485,343	309,401	491,364
Gulf coast stations:			
Mexican crude oil	838,099	1,001,094	1,213,187
Topped Mexican crude oil	580,288	455,095	570,958
	3,154,851	2,654,373	3,943,903

Every Refinery Accident A Fire Hazard; Preventive Inspection

By A. D. Smith

Article 4

THE prevention of fire and its prompt extinguishment, if it does occur, is one of the chief concerns of the refiner, and has been the subject of innumerable articles covering the field from nearly every possible angle, so that it is approached in this instance with some hesitation; in fact, only after inquiry has shown the lack in most instances of systematic preventive inspection.

Closely allied to fire prevention inspection is accident prevention inspection, the two being intimately related, not only in the physical sense apparent to all (most refinery fires being of accidental origin), but in the more purely psychologic sense as well. In other words, any form of accident about a refinery is a fire risk, for the attention of one or more operatives is withdrawn from their work for a period varying from a few seconds to several minutes and sometimes hours if the accident be a serious one.

If personal injury occurs, not only must one or more workmen be replaced by substitutes, presumably less skilled, a distinct material fire hazard if process men are involved, but, as before stated, the more or less obscure and imperfectly understood psychological effect has undermined the nerve of perhaps one or possibly a score of witnesses, constituting a more dangerous hazard perhaps than the physical absence of the injured skilled operative.

Inspection Important

Therefore, at the risk of repetition, again the broad statement is made: Any form of accident about a refinery is a fire risk, systematic accident prevention inspection being equally important to that of fire.

The statement that in most instances systematic preventive inspection is lacking in the refining industry will doubtless uncork the vials of wrath of the various insurance inspection and rating bureaus, and many a refinery will refute the statement, but when it is explained a daily inspection is meant, perhaps judgment will be suspended until the article is finished.

The excellent work of the rating bureaus, the suggestions of their trained engineers, together with the cumulative experience of the practical refiner have all worked towards making the modern refinery a far cry from the fire-traps of twenty or even ten years ago; guards have been placed around machinery and open gears have disappeared, but the monthly visit of the insurance inspector, the semi-annual trip of the factory inspector, and even the daily passing of the superintendent thru the plant with his mind full of many problems is insufficient protection in any plant of large or even moderate size.

Written Reports Important In Keeping Fire Hazard Down

PSYCHOLOGICAL as well as physical reasons operate to make every accident in a refinery an additional fire risk. This is not only because an injury to a man makes it necessary to replace him with one usually less skilled, but the effect of the accident, particularly if it is a serious one, operates to distract the attention and shake the nerve of other operatives who see or hear of the accident.

¶Constant daily inspection, both for the prevention of fire and accident hazard in general, are necessary if the hazard is to be kept down to the lowest possible point. This inspection should be the special duty of a certain man and his reports should always be in writing. These are the conclusions drawn by Mr. Smith, superintendent of refineries for the Mid-Co Gasoline Company, from his long experience as a refinery manager.

Some of the large plants employ a fire marshal, and in the extensive eastern manufactories the safety first inspector is a fixed institution, but as far as is known comparatively few refineries have such a system, at least down to a form report that gives a complete daily record of status of plant from a fire and accident hazard standpoint.

Qualities for Inspector

To make such inspection a success a man should be chosen for position of inspector possessing keen powers of observation, preferably with some experience in refining and construction, but above all absolutely honest and fearless in the discharge of his duty.

In the system developed by the writer it was found advisable to make out two reports, one on the condition of fire-fighting equipment, the other on hazards, one man being able to look after both with comparative ease. The form reproduced herewith, i. e., "Daily Report Fire Fighting Equipment," can be covered in the average plant of 4,000 to 8,000 barrels daily crude capacity, built over 100 to 150 acres in the course of two hours or so very readily, depending, of course, on the nature of equipment maintained.

In the plant in which this form of report was first developed, a considerable amount of so-called miscellaneous fire fighting equipment was listed and an exact count made daily of the several items which might not be deemed necessary by many plants and which omission would obviously shorten the inspection period. In the cited case it is believed, however, the daily count did not a little in checking the disappearance of sundry buckets, shovels, approach planks, etc., that possess varied uses apart from fire fighting.

Value of Form

With the form before one, it hardly seems necessary to point out that foaming solutions must be at full strength to be efficacious, that an empty chemical extinguisher is not of immediate value and that time lost in hunting for shovels, picks, sand buckets, etc., in time of need may mean the spreading of a disastrous fire. Instances have been known of a perfectly good reel of 500 feet of hose unavailable until a dray had been pulled away from in front of door of hose house, and again of a fire pump that required an hour (at least it seemed so) to start. All such features have been covered it is hoped in the form under discussion, which is self-explanatory to any refiner, unless the terms valve forks, cock wrenches and approach planks may be a little obscure.

The first-named are long T-handled ⅝-inch rounds with a two-prong fork at one end, capable of entering the usual valve wheel, and form admirable contrivances for reaching valves inaccessible from fire or other causes. The cock wrenches are special forged socket wrenches with a length of 2-inch pipe for a handle, provided with ¾-inch holes at opposite end from socket for insertion of turning bars.

Such a wrench can be often used on a pumping-out cock inaccessible otherwise. The last-named item, approach planks, as their name suggests, are used for throwing across gaps such as the low fire walls back of stills to gain access to some cock or valve. They merely consist of well-chosen oak soaked in alum water and provided with chains for throwing into position.

Written Reports

In order that the form shown may be more clearly understood in its application, it will be noted that it has been partially filled in. Other reports may,

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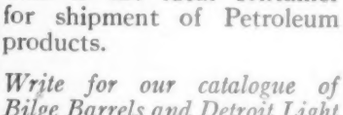


however, suggest themselves as being more applicable to some particular plant, but if the principle of daily inspection is maintained and results recorded, it makes little difference as to exact form; but too great emphasis cannot be placed on a written report, for observations reduced to writing are invariably given more attention than verbal instructions.

Where a plant is too small profitably to employ an inspector, the superintendent or yard foreman can undertake the work, but from reasons earlier stated such inspection can scarcely be as systematic and thoro as when done by one man as his sole occupation.

It was mentioned that it was found advisable to keep the accident and hazard report separate from that of the fire fighting equipment, altho kept by the same inspector. The accompanying form, entitled "Daily Report Fire and Accident Hazards," will show the advisability of this system, and will also bear out the statement that the inspector should be a man of keen powers of observation.

It might be added he should possess tact as well, as no department head particularly cares to see his department written up; but on the other hand when it is realized that the inspection is meant for the good of all, very little ill feeling results, and where a conscientious, diplomatic inspector is employed, the operatives themselves often go out of their way to call attention to some minor fault. Once reported, the same defect rarely occurs on the following day, for it is one thing to be told of a hazard, and another to see it in writing, the latter always suggesting a certain responsibility wanting in the verbal order.

Duties of Inspector

In the last form under discussion, it is scarcely conceivable that the inspector will so happen around as to personally note all fires, spills, etc., but the evidences of such occurrences are never lacking, and it is a part of his duties to secure all information relative to same, and here again a tactful and diplomatic inspector is a decided asset. Even in a large plant it is surprising how little escapes the eye trained for this class of work, the report in question being filled in as a typical example of a day's work.

Consider the results of such an inspection. The railroad performing the switching service will be notified as having a probable defective screen in stack of switching engine, and if no other action is taken a written record is at hand as an aid to some future claim. On the

Form 93 2-19-20 500.

INSPECTION DEPARTMENT.

DAILY REPORT FIRE FIGHTING EQUIPMENT.

Date July 3, 192

HOSE HOUSE No.	Official Sealed Equipment	Seal No.	Unsealed	EQUIPMENT MISSING	Doors Free Obstructions	REMARKS
1	Yes	234657			Yes	
2	"	58			"	
3	No		Yes	50' Length' Hose.	"	Repairing coupling, will have replaced and sealed.
4	Yes	59			No	Load gravel broke down, gang now cleaning up.
5						

FOAMITE TANKS	Official Number Service	Solutions at Strength	Leaks	Gauge 30 Tank	Gauge 31 Tank	Valves Free Obstructions	
30 31	2	Yes	No	10'3	10'5	Yes	

HYDRANTS	Official Number Service	Connection O. K.	Leaks	EQUIPMENT MISSING	Plugs Free Obstructions	
Water	20	Yes	At #7 Small	Cap gone #7	Yes.	Pipe Fitter foreman will send gang to #7
Foamite	3	"	None	None	"	

FIRE PUMPS	Official Number Service	Connections O. K.	Short Handle	EQUIPMENT MISSING	Valves Free Obstructions
Water	4	Yes	Yes	None	Yes
Foamite	1	1	"	"	"

FIRE LINES	Official Connections	Connections O. K.	Leaks	EQUIPMENT MISSING	Valves Free Obstructions	
Water	All Hydrants	Yes	Small #7		Yes	
Steam	All Tanks	Broken Ell 100 Tk.	None		Yes.	Notified Pipe Fitter foreman.
Foamite	All Light Oil Tanks	Yes	None		"	

MISCELLANEOUS	Official Number Service	Sealed Official Location	Condition	EQUIPMENT MISSING	Free Obstructions	
Sand Bbls.	25	Yes	Full	None	Yes except #13.	Dray backed up against drum.
Buckets	30	Yes except #5	O.K.	# 5	Yes	#5 Report.bottom #2 Con.
Shovels	36	Yes	"	None	"	
Valve Forks	6	Yes	"	"	"	
Cock Wrenches	6	"	"	"	"	
Approach Planks	6	"	"	"	"	
Acid Soda Hand Extng.	20	#2&4 Yes	Empty Full	#2&4 at Lab.for Refilling.	Yes.	Lab. promise return #2&4 afternoon
Acid Soda Chem. Eng.	4	Yes	Full	None	"	
Pyrene Extng.	6	"	"	"	"	
Foamite Pails	12	"	"	"	"	
Foamite Chem. Eng.	1	"	"	"	"	
Blankets	10	"	O.K.	"	"	

Inspector.

Form M. 3-1-20. 500.

INSPECTION DEPARTMENT.

DAILY REPORT FIRE AND ACCIDENT HAZARDS.

Date July3e 192

Nature Hazard	Kind	Size or Quantity	When Noted	LOCATION	Whom Notified	Remarks.
Fires	Weeds	Small	10 A.M.	W. Ma.P. Switch	J.Nolan	Caused by cinder from switch eng.stack-too many weeds.
Spills	B.Oil	1 Bbl.	11.45 A.M.	Load.Rack	W.Johnson	Over-run G.A.T.X. 15,350
Leaks	None Noted					
Rags, Clothes, Trash	Old Shoes	1 Pr.	2 P.M.	#1. Rec.House	L.Jones	#1 Rec.House neater than usual.
	Rags	Pile	2.30	Near Tk.725	S.Stevic.	Left from wiping tank, will clean up to-day.

Nature Hazard	Kind	Defective or Dangerous	When Noted	LOCATION	Whom Notified	
Electric Wiring	Vapor Proof Globes	Missing	3.00 P.M.	#2 Roc.House	J.Monlan	Will install at once.
Fire Doors and Hatchways	All	O.K.				
Fire Walls and Dikes	All	"				
Ladders and Walkways	All	"				
Machinery and Tools	Cold Cutter	Mushroom Head	4.P.M.	Boiler Shop	L.Tenant	Will reforge early to-morrow.
Con. Construction	None going on.					

Violation Rules	Kind	By Whom	When Noted	LOCATION	Whom Notified	
		P. Czernic		Still cleaners		
	No Smoking		4.20 P.M.	Shanty	L.Hicks.	New man, thought all right light up before out of gate.

Inspector.

part of the refinery more care will be taken in matter of weeds, etc. The superintendent will take some action on the reported spill and violation of rules, and attention has been called to certain defective wiring and mushroom headed tools. Again the written record is emphasized, it being a silent witness that cannot be easily brushed aside, and it always means quicker repairs and higher efficiency all around.

In conclusion, a plant may be erected after the most modern and fire-proof construction, have the latest and best approved apparatus for preventing fires and a tried system for extinguishing them if they do occur; it may post an elaborate series of Safety First bulletins weekly or semi-weekly, but without a systematic preventive inspection both for fire and accident hazards it has not reached its highest possible efficiency.

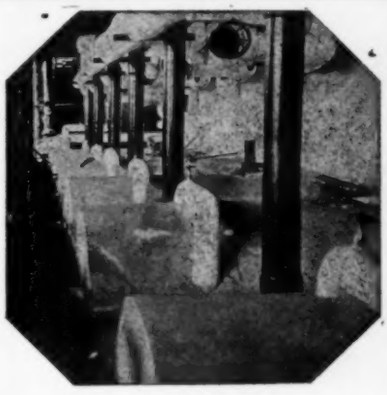
Honolulu Consolidated Seeks Judicial Review

By Special Correspondent

LOS ANGELES, Oct. 8.—Instead of bringing its land questions into court by the indirect route of suing private adverse claimants, the Honolulu Consolidated Oil Company seeks to continue the litigation brought by the government and to carry it to the supreme court. To this end it has obtained leave of court to file an amended answer to the government's original complaint, and under such permission it has submitted what is in effect a cross bill, in which it goes fully into the entire history of its litigation, includng the recent decsion of Secretary Payne refusing to issue patents to its land located within Naval Reserve No. 2.

Some of the allegations are decidedly interesting. The amended answer tells the history of the decision favorable to the company rendered by Commissioner Tallman and fully sustained by Secretary Lane, who clear-listed the land for patent. However, so the company now charges, the president intervened, thereby exceeding his lawful authority, and kept Secretary Lane from promulgating and putting into effect his decision, thereby keeping the case open to be passed on by Secretary Payne. It is charged that the latter is wholly inexperienced in mining law and unfamiliar with the history of the case and with the past practice of the department in such matters. Nevertheless, it is charged that he declared, after hearing the arguments, that he was ready to deliver his decision at once. However, he apparently changed his mind after consulting with advisers, and held the decision for some little time, and then rendered judgment adverse to the company, refusing the patents asked for. This decision, it is asserted, is illegal and subject to judicial review.

An answer has been filed by Henry F. May, assistant attorney general in charge of land litigation, in which he contends that the courts have no jurisdiction to inquire further into the question involved, that Secretary Payne's decision is final, and he cites the original from the company to the effect that the final jurisdiction lies with the interior department, and the further fact that the company some weeks ago filed a relinquishment of its patent rights and an application for leases on its wells. These actions on the part of the company, May contends, act as an estoppel to the company's now alleging that jurisdiction lies with the courts.



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Turbine and Dynamo Oils: Special care in manufacture is given to make these products high in flash and non-emulsifying.

Engine and Machine Oils—Red and Pale Oils: In grades to meet all conditions.

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Motor Oils—Veedol: Lubricants that resist heat. Made by the famous Faulkner process that reduces sediment formation.

Motor Greases — Veedol: Cup, graphite and heavy oils for transmissions. The highest grades of motor greases on the market.

How Shortage In Supply Of Natural Gas Can Be Augmented By Artificial

By Col. E. G. Pratt

The accompanying article, presenting the views of the chief engineer of the East Ohio Gas Company, Cleveland, was read before the second annual convention of the Ohio Gas & Oil Men's Association at Columbus, September 29. In view of the closeness with which the oil and the natural gas industries are linked and the effect upon the oil industry of natural gas depletion, involving increased demand for gas oil for the manuufacture of carburetted water gas and greater demand for fuel oil, National Petroleum News presents this paper as the timely and constructive thought of one of the best known natural gas authorities.—Editor.

IT is the consensus of opinion, based upon knowledge and experience of both scientists and operators, that the supply of natural gas is being rapidly depleted and that, therefore, it is only the question of a short time before the supply will be completely exhausted. How long that time will be depends upon economy displayed by the consumer together with such conservative regulations as shall be promulgated and enforced on the part of companies furnishing the gas, coupled with the assistance producers and distributors have the right to expect from commissions and councils.

In retrospect, the natural gas man undoubtedly concludes that if history were to repeat itself, he would undertake to act differently in the matter of the extravagant and wasteful use of gas. My understanding is that the early operator was after oil and not gas, and yet conditions were such that both gas companies and consumers believed that the supply was unlimited and that there was no need for economy in its use; that it was a natural product, was being produced as fast as consumed, costing nothing to produce, and apparently little to distribute. Some of us recall in the early days of the application of electricity for light, before the introduction of the meter, when the current was sold by contract at so much a lamp per month, with little knowledge of its cost, customers would use lamps in broad daylight for fear that they were not getting their money's worth, and not until the advent of the meter, and such other restrictions as would conserve the use of electric current, were companies supplying it prevented from going bankrupt.

The same thing can be said with respect to water supply, for, without proper regulation in the use of these products, there is bound to be waste and extravagance. These may not be parallel cases, but they illustrate the meaning.

In the case of natural gas, the difference all along seems to have been, as with the before-mentioned products, that in the early days of its discovery, little or no attention was paid to its regulation and use, for it was sold at such ridiculously low rates as to encourage waste. However, it is recalled that the supply has lasted much longer than was at first prophesied by those who were anxious to have it short lived, but notwithstanding this, it has been a faithful servant and to be deprived of it will be almost an irreparable injury to the communities that have enjoyed the benefits of its use. That it has been the means of building up these communities goes without saying.

It will be recalled, too, by those who were early in the game that the death knell of artificial gas was sounded when and where natural gas was introduced, and that few artificial gas men sought to make terms with the purveyors of natural gas even though such opportunities were generally presented. The chief comfort which the artificial gas man gathered to himself was that the supply of natural gas would last but a few years at the longest and that artificial gas could weather the storm until such time as the natural product failed. History fails, however, to record that any such theory was borne out in fact, for wherever compromises or consolidations were not promptly effected, the artificial business fell by the wayside. It would appear now, after these many years, that there is the prospect of artificial gas coming back into its own. Indeed, it is already here, but unfortunately there are few left who will rejoice at its return, for changes have been numerous in the period of eighteen or twenty years.

If natural gas is failing, as is the opinion of authorities, backed by general observation; if companies who, for the past eighteen or twenty years, have been furnishing gas to their respective communities and have investments commensurate with the service rendered, it may be assumed that they expect to protect these investmens either for themselves, their successors or assigns, and to continue to furnish some kind of gas to supplement, augment or replace any failure of the natural product.

The question naturally arises, what kind of gas shall be made to supply any deficit in the natural gas supply? If we could anticipate some definite date upon which the natural gas supply would cease, we could, I believe, more easily determine about what was the first best thing to do. Here in Ohio it may be assumed that any such failure as is contemplated will be more or less gradual and hence any effort to supply the deficit of natural gas will naturally have to be planned accordingly. Much depends upon the locality, or the localities served, whether you are supplying one community or a number of communities and the importance of these. I take it for granted that you are in the business of furnishing gas service and that it is not to be supposed that you will discontinue that service because of the failure of the natural product. You will, of course, undertake to prolong the service of natural gas as long as possible, and this can be done, it is conceded, by charging such rates for the service as will compensate you for the reduced consumption and will cause your customers to curtail its use and abuse, confining it as nearly as possible to domestic consumers. By so doing you will serve the greatest number of your customers and to accomplish it you should have the support of not only

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these customers, but the rate-making powers as well.

Substitute for Natural Gas

What kind of gas do you propose to augment the failing supply of natural gas with is, as above stated, a question of locality and environment. Some of you may have an abandoned gas works that can be partly brought into commission with suitable additions until such time as you can definitely determine what move to make. Others, who are not so fortunate, will either await developments or act as in their best judgment seems best. One thing is apparently certain, if you expect to continue in the gas business, this matter must receive your careful and early attention.

Experiments have demonstrated, I believe, that the supply of natural gas can be augmented either by a mixture of natural gas that can be distributed to all your consumers alike or, by the isolation of certain districts to which the mixed gas can be delivered, or else some kind of manufactured gas exclusively, much depending upon arrangements you can make with your respective communities. This suggestion has reference only to the transition period thru which you will pass from a gradual failure to the actual failure of natural gas.

The fact that the users of natural gas have become adjusted to the use of a gas of high heating value, and with appliances that are more or less inefficient and uneconomical, means that much more attention must be given to educational methods in the use of gas, even with the natural product, and surely with any mixture of natural and manufactured gas, or with manufactured gas alone.

The manufactured gases with which we are now familiar and which may be considered here are:

Producer gas,
Blue water gas,
Carburetted water gas,
Oil gas,
Coal gas,
Coke oven gas.

Producer gas is made by passing air or a mixture of air and steam thru a generator of incandescent coke or coal. It has a heating value of 140 b. t. u's. It is not suitable for general distribution except in very small areas.

Blue water gas is made by passing steam thru a generator of incandescent coke or coal, has a heating value of 300 b. t. u.'s, and because of its high flame temperature makes an excellent gaseous fuel.

Carburetted water gas is a combination of blue water gas and rich gas produced from oil. Steam is passed thru a generator containing incandescent coke or coal, and oil is sprayed into the carbureter of a water gas machine where it is converted into gas, the two gases meeting and mixing in the carbuteter and together passing thru a superheater and other apparatus necessary in the production of a fixed carbureter water gas. The heating value of this gas depends upon the quantity of oil used, but as generally distributed is from 525 to 570 b. t. u.'s.

Oil gas, as made by the Pacific coast method, is, on account of the prevailing price of oil in this section of the country, hardly to be considered at the present time in connection with its distribution as an auxiliary to natural gas.

Coal gas is a gas produced by subjecting so-called gas coals to high temperature in retorts or by product ovens, and is the result of the destructive distillation

of coal. The retorts or ovens are heated by producer gas using part of the coke made. The heating value of coal gas is approximately 570 b. t. u.'s.

By-product coke oven gas is a gas resulting from the destructive distillation of coal, the same as coal gas, except that the process of manufacture differs in that the ovens are heated by part of the gas made and coal is placed in the ovens or retorts in much larger quantities, the chief aim being to produce coke rather than gas.

It will be interesting to know about what the investment per thousand cubic feet for the production of the kinds of gases mentioned herein would be. Of course, this can only be an approximation, for estimates would differ in different localities, depending upon the size of installations and local conditions, but, in a general way, would be as follows:

Plants of from 5 million to 10 million cu. ft. purified gas per 24 hours continuous operation	Plant cost per M cu. ft. 24 hrs.	B T U of gas per cu. ft.	Cost of plant million b t u per 24 hrs.
Producer gas plant ..	$ 80.00	140	$570.00
Blue water gas plant.	75.00	300	250.00
Carburetted water gas	110.00	570	194.00
Oil gas plant (Pacific coast method)	115.00	570	202.00
Coal gas plant (by-product gas ovens)	360.00	570	630.00
Coke oven plant (surplus gas only)....	550.00	570	960.00
Combined coal gas and blue water gas plant	185.00	385	480.00

No storage holders are included, but the necessary relief holders are included in the above costs.

It will be seen that the construction cost, based on the cost per 1,000 cubic feet per twenty-four hours, the blue water gas plant is the cheapest, but that the construction cost, based on the cost per million b. t. u. per twenty-four hours, shows the carburetted water gas plant to be the cheapest. Cost of the gas made in each type of plant would, of course, depend on the cost of materials and labor and the selling price of the products and by-products, as well as the interest charges on investment, taxes, etc.

High Cost Gas Oil

We are practically sure that the market for oil is to remain up because of the more profitable use to which gas oil, so called, is put in the extraction therefrom of gasoline, and yet, because of the flexibility and elasticity of water gas, whether blue or carburetted, makes the installation of water gas almost imperative for the reason that it will carry thru the transition period which you will undoubtedly experience, and because, too, it can be so readily adapted to any sudden increase or decrease upon gas demand; also as an adjunct to any coal gas or coke oven gas plant you may install later on whenever the date of a complete failure in the natural gas supply becomes apparent or more definitely fixed. It is not possible to establish any fixed rule, but only to suggest some safe and reasonable plan to work to.

In the matter of production costs, eliminating the difference in investment, without getting down to exact costs, except by way of comparison, if the comparative costs of material and labor which now prevail continue, carburetted water gas and producer gas will be high as compared with blue water gas, coal gas or coke oven gas.

A good general rule which has been suggested in some one of the interesting articles I have read recently, would, I believe, apply here:

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1—If the natural gas supply is sufficient, except for "peak loads," install enough blue water gas to make up the deficit or fill in the "valleys."

2—If natural gas is deficient most of the year, install enough coal gas apparatus to make up the deficit and install also enough blue water gas apparatus to take care of the "peaks."

Assuming that the average daily consumption of natural gas is, say 300 cubic feet per consumer per day, it will be safe to estimate that, by reason of higher rates which the consumer would be required to pay for the manufactured product and the economies which would follow due to the greater care in its use and the adoption of more economical appliances, 125 cubic feet per consumer will be about the average daily consumption, and it is my judgment that in planning for a gas works for manufactured gas that this figure will be a safe one to work to.

Condition of Mains

In the distribution of manufactured gas thru old natural gas mains much thought will have to be given to the condition of mains and services, such as tightness of joints, whether the mains are laid to grade that will allow any condensation finding its way back to receptacles provided therefor. Provision will have to be made either to locate the low places in the distribution system and remedy the defects or provide, in so far as possible, against condensation taking place after the gas leaves the works. The type of pipe joint in the oil mains should also be considered.

That companies furnishing natural gas are facing some very interesting problems and experiences, goes without saying, and and while the prospects may seem dark and discouraging at the present time, I firmly believe the difficulties will disappear as we approach them. People who have lived in communities blessed with a supply of natural gas have not appreciated fully the blessings meted out to them, but have become accustomed to the use of gas and will continue to use it, whether the product is natural or manufactured, and in the present circumstances it will be up to the companies to not only continue the supply of a gas that will give uniform satisfaction, but to assist by way of instruction and demonstration how it can be used to the best advantage.

The work of education in the economical us of gas is evidently being given more attention now by natural gas companies than ever before, but this education must be special as well as general, by which is meant that effort should be made to instruct every consumer of gas, now and prospective, in its proper use. To accomplish this, gas consuming appliances must be adjusted and adapted to any changes of conditions and the manufacturers of appliances must interest themselves in cooperating with the gas companies, and the consumers of gas, to help bring about this much desired result.

Any money judiciously expended in this direction will, I am sure, be returned to the companies as money well invested, having in mind that a satisfied consumer is the best sort of advertising to employ. You cannot afford to allow customers to learn by experience during this transition period, but must anticipate any changed conditions and undertake to advise and teach them in the use and not abuse of gas.

Concrete Storage Tanks Are Adaptable To Any Petroleum Product

By H. C. Boyden

FOR the storage of crude oil and its products, concrete tanks and reservoirs are best. They are relatively cheap, are simple to build, can be constructed at any point, and usually largely from local materials, can be designated to fit any location or requirement, are permanent, require almost no maintenance, and do not attract lightning. In this paper concrete tanks for oil storage will be described in three general divisions: (1) Large concrete reservoirs in oil fields and at refineries; (2) concrete fuel oil storage tanks at the plants of consumers and shippers, and (3) concrete tanks for gas lines and kerosene.

Reservoirs for Crude

Some of the concrete lined reservoirs in California have capacities as great as 1,000,000 barrels, or 42,000,000 gallons. Such large reservoirs are usually built by excavating a circular or elliptical plot of ground to a depth of several feet and piling up the excavated material to form an embankment around the excavation. Thus such a reservoir is partly above and partly below the ground. Twenty years ago, if such a reservoir was built in a clay soil, no lining was used, altho the loss from seepage might be very large. Today, however, such reservoirs are usually lined with concrete, which eliminates seepage losses and are often put under roof, which reduces losses by evaporation, and the danger of fire.

A 44,000,000-gallon reservoir of this type was completed at El Segundo, California, by the Standard Oil Company of California last March. It is elliptical in shape, with sloping sides, laid on a 1.5 to 1 slope, and is 25 feet in depth. At the top its greatest length is 548 feet, and its greatest width is 460 feet. Thus it covers an area of about five acres. The floor is lined with a concrete slab 4 inches thick, and the walls with concrete slabs which vary in thickness from three inches at the top to three and a half inches at the bottom. The concrete mixture was 1-2½-3½. No protective surface treatment was used, but seven days after completion of concreting the entire surface of the floor and walls was coated with a rich cement-sand mortar.

Up to the present time that company has built ten such reservoirs, varying in capacity from 300,000 to 1,000,000 barrels each, and having a total capacity of 5,800,000 barrels. The first was built in 1906, and the last, which was described above, was completed only six months ago. Thus large concrete reservoirs for crude oil have given satisfactory service for many years. The fact that this company continues to build them is evidence of their success.

A number of other California companies have similar concrete reservoirs. The Kern Trading & Oil Company has four, with a total capacity of 2,500,000 barrels, located at Bakersfield. The Associated Oil Company has eleven, with a total capacity of 8,000,000 barrels, and the General Petroleum Corporation has one with a capacity of 500,000 barrels. Most such large concrete reservoirs are in the California fields. It would seem as if they could be used to advantage in many cases in the Mid-Continent, Rocky Mountain, Gulf Coast and Illinois fields.

In a paper on this subject presented before the A. S. C. E. in 1915, E. D. Cole states that in unlined earthen reservoirs the annual losses from seepage and evaporation amount to from 1 per cent to 7 per cent of the volume of oil stored, while in concrete lined reservoirs the losses are less than 1 per cent. In a million-barrel reservoir this saving might amount to 60,000 barrels a year, or, at $3 a barrel, to $180,000. It is surely worth while to save that amount annually. Mr. Cole estimates the cost of the earthwork in such a reservoir at about 3 cents per barrel capacity, the concrete lining at 4 cents to 5 cents per barral capacity and the roof at 3 cents per barrel. Assuming those costs to have doubled since then, and that crude oil is worth $3 a barrel, the cost of a concrete lining is only 3 per cent of the value of the oil stored in the reservoir, and the saving in seepage losses would pay for the lining in less than a year.

Storage at Refineries

The crude oil storage capacity required at refineries is, of course, much less than that required in the oil fields, but it is necessary to have a few days' supply on hand to guard against temporary interruption in the supply. But in addition to storage capacity for crude oil, refineries have to provide storage capacity for their products, for fuel oil, road oil, lubricating oils, kerosene and gasoline. These tanks are usually of moderate capacity, ranging from 2,000 barrels to 100,000 barrels, and for the reasons given above, reinforced concrete is the best material for the construction of such tanks. Large concrete tanks, particularly if built above ground, are usually circular, but if the tank is below ground, or if it is divided into two or more compartments, rectangular tanks may be desirable.

Among such concrete tanks at refineries may be mentioned those of the Oklahoma Producing & Refining Corporation, at Muskogee, Oklahoma. Their tanks were built in 1917 and have a combined capacity of 225,000 gallons. At Lawton, Oklahoma, the Lawton Refining Company has a 360,000-gallon concrete tank, used for the storage of 26-degree Be. gravity oil. At Oilton, Oklahoma, the Oilton Refining Company has a 100,000-gallon tank that was built in 1916. At Gainesville, Texas, the Empire Gas & Fuel Company has a 15,000,000-gallon tank built in 1918. At Shreveport, Louisiana, the Louisiana Petroleum Products Company is now building larg concrete tanks for the storage of crude oil and gasoline at the refinery.

Shippers and Consumers

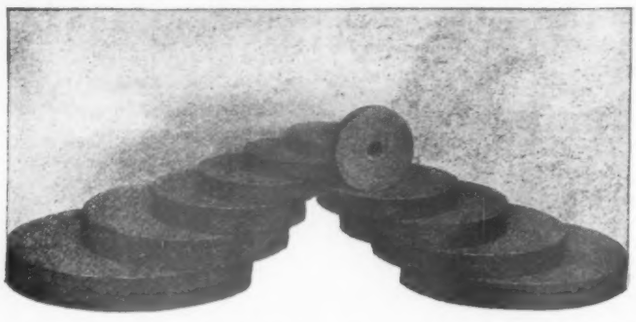
Altho concrete tanks and reservoirs are of value and importance in oil fields and refineries, yet perhaps they are of greater value at points where fuel oil is stored after leaving the refinery, viz., in the plants of the consumers of fuel oil, and at harbors where fuel oil is shipped by boat or supplied to oil-burning vessels. The use of fuel oil is increasing rapidly at industrial plants, hotels, office buildings,

Proper Construction Is Secret Of Concrete Tank Success

CONCRETE tanks are being used successfully for the storage of various oil products including gasoline and kerosene. The matter is discussed extensively in the accompanying article. It is composed of selected excerpts from a paper read before the Independent Oil Men's Association in Denver, by Col. H. C. Boyden, Chicago, engineer and member of the Portland Cement Association.

¶ Sizes, shapes and methods of construction are thoroly covered. However, the author did not discuss the question of costs in comparison with steel storage, a point of particular interest, especially in view of the fact that steel tanks may be dismantled, moved and erected again, while concrete tanks can not.

¶ Briefly, his contention is, that the secret of having satisfactory concrete tankage is in having it properly built in the first place.



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in the operation of ships, and even for the heating of apartment houses and residences. At these points the safe and efficient storage of fuel oil is of special importance.

In order to provide for an adequate supply of fuel oil a storage tank holding 30 to 60 days' supply is needed. When such a tank is built above ground it covers much less yard space than the coal pile which would be its equivalent, in heat value, considering that four barrels of oil is equal to one ton of coal, but the logical method is to put the tank underground and save the whole yard for other purposes. In some plants this conservation of valuable ground area is of great importance and possesses a definite money value, which in itself will help to defray the cost of building the storage tank.

The most logical form of construction for underground storage of fuel oil is reinforced concrete, since there is no danger of deterioration thru rusting and practically no expense for maintenance once the tank is built, except for occasional cleaning. Furthermore, the concrete tank may be successfully constructed in water bearing soils, which would make the construction of any other type of tank almost impossible, because of the upward pressure of the water tending to float the tank or buckle the bottom if the tank were empty. A concrete tank can also be built, as some companies have done, under a switch track leading to the plant, or under an alleyway between buildings, a driveway, or in any other convenient location. Once a concrete tank is built and covered with eighteen inches or two feet of earth it keeps its contents at a practically uniform temperature, which prevents evaporation losses, such as often are encountered with above-ground tanks of other material when the fuel oil stored therein is in the nature of a distillate containing volatile constituents. One company found that its underground concrete tank kept the oil at such a uniform temperature that it was not necessary to heat the oil before pumping, even in cold weather.

The use of concrete tanks for fuel oil storage by industrial plants is to some extent a comparatively new development, but there are a number of tanks in successful use today that were built prior to 1910, and some in 1905 and 1906. Among the older of such tanks can be mentioned the 180,000-gallon tank of the San Antonio Public Service Company, San Antonio, Texas, built in 1905; the 10,000-gallon tank of the Ada Gas & Electric Company, Ada, Oklahoma, built in 1908, and the 12,000-gallon tank of the Seymour Cotton Oil Company, at Seymour, Texas, built in 1906.

At the present time there are in service in this country more than 480 cencrete oil storage tanks, having a total capacity in excess of 880,000,000 gallons, and located at more than 300 different plants, scattered all over the United States. The capacity of concrete oil storage tanks at the plants of shippers and consumers varies widely: from a minimum of about 12,000 gallons, which requires a tank about twelve feet square and eleven feet deep, to a maximum of about 2,000,000 gallons. As examples of the latter may be mentioned the three 55,000-barrel circular tanks 115 feet in diameter and 30 feet high built by the government at the Panama Canal Zone, one in 1918, and the other two this year, and the two 55,000-barrel circular tanks of the France & Canada Oil Transport Company at Aransas Pass, Texas, which

successfully weathered the hurricane of a year ago.

Storing Light Products

The gravity of the oil stored in concrete tanks ranges from the heavy Mexican or California oils of 11-20 degrees Be. to the 25-40 degree fuel oils of the middle west, and even higher when the tank is used for the storage of kerosene or gasoline. In 1918 and 1919 the United States Bureau of Standards made several series of tests on concrete tanks for the storage of the various grades of mineral oil. These tests showed that for the heavier grades of oil, with a gravity of less than 30 degrees Be., an untreated concrete tank would be satisfactory, because there was practically no penetration of the oil into the concrete. For lighter oils, however, present knowledge indicates that some surface treatment for the inside walls and floors is desirable as a further factor of safety, supplementing careful design and construction. The nature and extent of the treatment depends on the character of the oil.

Where fuel oils above 30 degrees Be. are to be stored in concrete tanks, such seepage can be prevented by treating the interior surface of the concrete tank with a solution of magnesium Fluosilicate or similar liquids, which form an insoluble lime compound on the surface of the concrete.

When a concrete tank is to be used for the storage of a very light oil, such as kerosene, benzine or gasoline, a special treatment should be given to the inner surface. This treatment should form a dense, impervious coating that will resist the action of such oils. There are a number of different treatments suitable for this purpose, some of which have been worked out by companies making a specialty of the construction of concrete oil tanks. With this added precaution of treating the surface of a concrete tank in this manner, it can be successfully used for the storage of gasoline and kerosene.

One series of Bureau of Standards tests, which were all described in an article by Messrs. J. C. Pearson and G. A. Smith in the 1919 proceedings of the American Concrete Institute, was on a set of tanks which were subjected to the pressure of a 25-foot head of oil. In spite of this added pressure, which was as great as ordinarily encountered in oil tanks, no penetration of oil was noted, the result being similar to those of the first two series, mentioned above. In no case was there any deterioration of the concrete due to exposure to the oil. The results of these tests corroborate field experience with concrete oil storage tanks.

There are a number of concrete tanks that are being successfully used for the storage of the lighter oils. At Mt. Hope, Kansas, the Howard Oil Company has two underground tanks with a combined capacity of 18,000 gallons, built in 1918; one is used for the storage of kerosene and has been entirely satisfactory. At Muskogee, the Oklahoma Producing & Refining Corporation, formerly the Muskogee Refining Company, has two concrete tanks, used for gasoline storage, that are proving very satisfactory. Their combined capacity is 225,000 gallons. At Newkirk, Oklahoma, are two gasoline tanks with a capacity of 100,000 gallons that were built in 1917 for the Crescent Refining Company, now the Pirtle-Pittman Oil Company. A representative of the United States Bureau of Standards who has been making an investigation of concrete oil

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tanks, states that these tanks are giving satisfactory service.

Design and Construction

To be successful a number of precautions must be observed both in the design and construction of concrete tanks for oil storage, but in a talk of this length they can be mentioned only briefly. The primary essential in the design, of course, is that the concrete tank have sufficient strength to withstand the internal pressure when the tank is full. That is merely a matter of computing the stresses properly, and of using the required amount of reinforcement in the proper places. If the tank is to be placed underground, it must be designed to withstand the external earth pressure when it is empty. If the level of ground water is apt to rise above the floor of the tank, it must be able to withstand that additional external pressure as well. If the contents of the tank will be heated, as is often necessary in moving heavy road oil or asphalt, the tank must be reinforced to withstand those temperature stresses.

Any standard Portland cement that meets the current specifications of the A. S. T. M. may be used in the construction of concrete oil storage tanks. The sand used as fine aggregate should be clean and well graded. One tenth of one per cent organic impurities in the sand reduces the strength of concrete more than 25 per cent. The material used as coarse aggregate should consist of hard, durable crushed rock or pebbles from screened gravel. It should be clean and well graded in size from a quarter of an inch to a maximum of one inch. Cleanness implies freedom from dirt or organic matter, and also from any dust coating on the individual particles which would prevent a proper bond with the mortar. Bank run gravel or crusher run stone should not be used because the ratio of fine to coarse material varies so widely as to result in mixtures of greatly varying proportion.

Nothing but clean, pure water, that is suitable for drinking purposes, should be used in mixing concrete, and the method of measuring materials should be such as to insure separate and uniform proportions at all times. The concrete should be mixed in a power-operated batch mixer, and each batch should be mixed at least a minute and a half after all the materials are in the drum, so as to insure thoro and uniform mixing. The amount of water should be as small as possible and still give a workable, plastic mixture. Usually six gallons per sack of cement is sufficient.

In oil tank construction a dense, impervious concrete is essential, and therefore a relatively rich mixture is necessary. A 1-1½-3 mixture is recommended, i. e., one sack of Portland cement (which can be taken as one cubic foot) to 1½ cubic feet of fine aggregate to three cubic feet of coarse aggregate. If possible, all of the concrete should be placed in one continuous operation so as to avoid any construction joints or seams in the concrete, through which oil might penetrate. In case this is not possible, great care should be taken to procure a thoro bond between the fresh concrete and that placed previously.

A concrete storage plant at San Diego had excellent results, rapping the forms with a specially constructed air hammer. The walls in this instance were very thin and a great amount of steel was used, and their problem was in getting the concrete

in around the steel. Wall forms should be left in place at least 36 hours or until the concrete has hardened sufficiently to be self-sustaining. Roof centering should be left in place at least fourteen days in favorable weather and a longer period during cooler weather. No outside pressure should be placed on the concrete until all forms have been removed.

Immediately after wall forms have been removed all projections or irregularities on the exposed surfaces should be carefully removed and any pockets or cavities filled with a mortar of the same proportions as that used in the concrete. The interior surface of the walls may then be further finished by wetting and covering with a grout of cement-sand mortar (equal parts) rubbed in with a carborundum stone or concrete brick.

Where a special treatment is required for the inside surface it should be applied to the walls and floors after the roof forms have been removed, but the tank should not be put in service, nor should any back filling be placed, until the concrete is at least four weeks old. In order to prevent the concrete from drying out too fast, and thus failing to attain its maximum strength and hardness, it is well to keep it damp during the first two weeks by frequent sprinkling or by covering it with damp canvas.

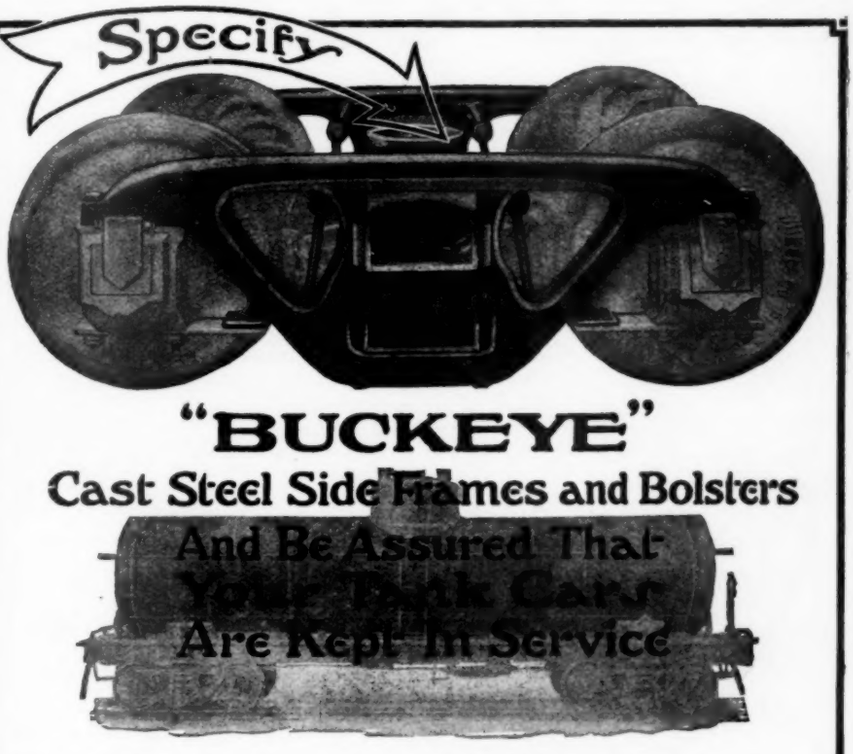
Fuel Oil Famine Hits West Coast Industries

By Special Correspondent

LOS ANGELES, Oct. 8.—The state of California has been unable to make any contracts for fuel oil for its public buildings and none of the companies will give assurances of a supply. The state comptroller says that it will almost certainly be necessary to transform the equipment to burn coal or wood. The state had similar trouble last year, and then said that such a change would probably have to be made. However, some way of getting thru the winter was found, and now the authorities are looking for a supply of oil which, just at present, no one will guarantee, altho deliveries day by day at daily market quotations can be had if the state will take chances on their continuing, as other consumers frequently have to do.

The gravity of the fuel oil crisis is attested by the notice served upon the Southern California Edison Company by the company which now supplies it with oil, to the effect that deliveries will have to be cut by 500,000 barrels next year. The company has already announced a plan for extending its hydro-electric plants to an extent which will ultimately do away with the consumption of millions of barrels of oil, but its completion is a matter of years. In the north of the state the Pacific Gas & Electric Company is making extensive efforts to extend its water power, but the demand is far ahead of the supply, and the company has just asked authority of the State Railway Commission to increase quite substantially its charges to consumers of power because of the increase in the price of fuel oil. The state power administrator has required consumers to restrict greatly their use of electricity for non-essential purposes in order to conserve fuel oil.

The fuel oil situation is considered certain to result in extension of the use of water power in California to an extent



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Gas Oils	Car Oil	Cup Greases
Spindle Oils	Fuel Oils	Gear Greases
Motor Oils	Diesel Fuels	Axle Grease
Engine Oils	Bunker Oils	Solid Lubricants
Machine Oils	Cylinder Oils	Petroleum Coke
Dynamo Oils	Cylinder Stocks	Metal Polishes
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even far exceeding the already extensive plans announced. It is even thought that it will result in the electrification of a large part of the steam railroad mileage, notably of the Southern Pacific and Santa Fe lines over the Tehachapi mountains between Los Angeles and Bakersfield, a matter which has been discussed more or less in railroad circles for several years. But for the financial and labor situation and the great difficulty of getting material it is not improbable that the work would now be under way.

Interned Tankers To Be Put Into Service

By Special Correspondent

NEW YORK, Oct. 10.—Three of the nine tankers, which were formerly owned and operated by the German subsidiary of the Standard Oil Company, interned at Hamburg early in the war as of German possession the title to which has been continuously involved since the armistice, have been anchored in the local harbor during the last few days, awaiting instructions for clearing under the stipulation that the total tonnage involved in the seizure would be distributed in the movement of oil for France, Great Britain, Belgium and Italy.

The tankers now available for loading here are the Niobe, of 9,500 tons, the Pawnee of 6,800 tons, and the Huron, of 4,800 tons. They fly the inter-allied and American flags, are manned by British crews and are under the tentative direction of the U. S. Shipping Board, subject to the authority of the Inter-allied Commission for whatever service it may decree. Under this restriction, the tankers, it is expected, will be chartered to the Standard for transportation of oil to the countries comprised in the arrangement, at a fixed charge.

As the boats have been out of active commission for about six years, their present condition is not believed to permit their normal operation without considerable overhauling.

By Special Correspondent

LOS ANGELES, Oct. 8.—The last six weeks has seen some relief to the very serious situation as to supplies of casing and pipe which has handicapped all work in California for the last three or four years, and which, since the first of 1920, has threatened to develop into a crisis. The relief so far is generally credited to alleged decline in the demand in some of the Texas fields. The time has not been sufficient for California to get the benefit of the additional cars which the Interstate Commerce Commission has ordered released for the handling for oil well supplies. However, the shipments made from Pittsburgh and Youngstown under this order should soon begin to arrive.

A. La Porta, 132 Via del Tritone, Rome, and R. de Bartolomeis, 7 Via Napo Torriani, Milan, have been granted an Italian patent for the distillation of asphalt rock, bituminous slate, etc., for producing oil, of the kind in which the distillation is carried out in part of the same chamber as that in which combustion of a part of the material takes place.

Exports of petroleum and derivatives from Peru in 1919 were valued at $11,291,831.

LUBRICATING *and* INDUSTRIAL OIL ENGINEERING

by John Rome Battle

(J. R. Battle Company, Engineers, Philadelphia)
Associate Member American Society Mechanical Engineers
Editor of Lubrication and Industrial Oil Engineering Department

How Fuel Oil Should Be Stored To Reduce Hazard Of Fire Loss

Article 3

IN furtherance of the general discussion of the storage of industrial oils, the writer has obtained some suggested regulations for the storage of fuel oil, and installation of burning equipments, which were outlined by the technical department of one of the prominent insurance associations. In view of the possible approach of a more favorable cost of fuel oil from the consumer's standpoint, a digest of certain of these suggested regulations for the storage of fuel oil is timely.

The chief hazard arising from fuel oil storage tanks is the possibility of the explosion of gases, which may accumulate in the tank above the oil. Such explosions result in damaged tanks, and subsequent ignition of the oil.

The range of explosive mixtures would indicate that a comparatively small amount of vapor is sufficient to produce an explosive mixture. While the chances of producing an explosive mixture from those gases encountered in the use of the heavy Mexican oils being used in certain sections of the country in increasing amounts are undoubtedly remote, a few explosions in fuel oil tanks, and in one case an oil tank containing Mexican oil, have occurred. Therefore the probability of an occurrence of this kind must be considered in discussing the safeguards against fire hazard, as affecting the insurance risk in industrial establishments. Also the extent of the subsequent loss must be considered, should an improbable but possible accident develop. Fuel oil tanks have been installed in some cases which produce a serious fire hazard to surrounding properties, should the tank suffer damage, due to an explosion with a consequent fire ensuing.

One factor which must be considered, in connection with danger of explosions from fuel oil tankage, is the more or less changing character of the material, which is affected by the existing market conditions for other petroleum products, the processes of refining, and the physical character of the oil as received from the wells. In consideration of the fire hazards of fuel oil storage, the lay-out and design must be approached with a view to providing for conditions a considerable time in advance, and it is evident that in the past few years the general character of oil used for fuel purposes has changed considerably from the standpoint of flash point and other qualities. Incidentally, this change has not always been in the same direction, as evidenced in the heavy "topped" Mexican oils in certain sections of the country, with comparatively high flash points, and the more recent introduction of "untopped" Mexican oils, from the Mexican-Panuco district, containing only a small percentage of volatile constituents. The untopped Panuco oil has a flash point around 120 to 130, containing enough volatile constituents to produce an explosive mixture, particularly when heated.

With specific reference to Panuco crude, the following typical specifications, from the writer's record of analysis, may be of value:

Gravity—Approximately 12 Be.
Flash—130 F.
Fire—155 F.
Sulphur—About 3½ per cent.
Water and Sediment—Less than 1 per cent.
B. T. U. Value—18,500 per pound.

Report of Analysis

Scale paraffin—0.518 per cent.
Viscosity at 60 F.—Too thick to take.
Viscosity at 100 F.—Too thick to take.
Viscosity at 212 F.—200 Engler viscosimeter, 615 sec., 150 F.

In view of the foregoing, it is generally considered that a conservative course should be followed by engineers and others interested in the design and construction of fuel oil installations. Unquestionably the greatest measure of safety for fuel oil storage tanks is obtained when they are buried underground, and located away from the heart of the plant. Thus is reduced the exposure to surrounding buildings. When conditions will permit, the location should be at the remotest end of the property. In general, where 50,000 gallons or more is to be stored in single units, separated, say, ten feet, a separation of 50 feet or more should be obtained from important buildings in the industrial risk, particularly where the buildings are made of combustible material. It should be specifically understood that this discussion refers primarily to industrial manufacturing plants, and not to fuel storage for such installations as office buildings and hotels, where congested conditions require a different consideration.

Where larger units of storage are used, it is advisable to provide a greater separation from the buildings, altho the technical department of the insurance company advises that wire glass windows with metal frames provided with open sprinklers may be necessary to give adequate protection.

A location for the storage, when possible, should be selected which exposes only incombustible buildings, and even a more favorable location is available where such buildings have incombustible occupancy. It may be advisable, in cases where a safe arrangement cannot be provided, to construct a blank fire wall of reinforced concrete to provide an additional safeguard for the building.

For those plants where the yard room is limited, or is practically nil, it is advisable to cut down the amount of storage to the lowest possible quantity which can be obtained without affecting the continuous operation of the plant, due to a delay in delivery and a consequent lack of reserve. The main advantage in large storage, which must be considered by the designing engineer, is the insurance factor against interrupted operation of the plant, due to delayed deliveries of oil. Unquestionably, the oil company realizes that if oil is to become a generally used industrial fuel, frequent and dependable deliveries are necessary, but it is also to be recommended that a reasonable reserve supply of fuel must be provided by the industrial consumer. Altho it is possible to convert oil-burning to coal-burning equipment in

Reduce Risk In Fuel Oil Storage

VIEWPOINT of the insurance company is taken by the writer of the accompanying treatise. How the installation of fuel oil tanks inside the grounds of industrial institutions should be made and how situated to protect the buildings most, is the subject with which he deals.

¶Advantage should always be taken of distance, placing explosives as far as possible from valuable combustibles. Subterranean tankage is desirable where fuel oil and buildings must be close together. Yet buildings may be insured with oil tanks under their very floors, if well safeguarded.

¶These and other interesting facts are concisely dealt with in this, the third article of the current series, by John Rome Battle.

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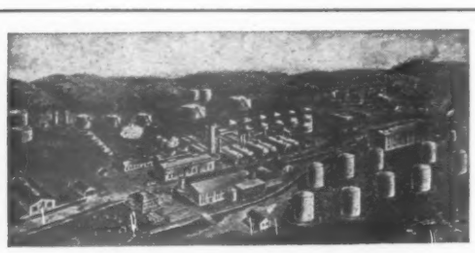

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a comparatively short time, keeping a reserve supply of fuel in the form of coal, it is not likely to encourage the increased use of fuel oil should such emergency be of more than rare occurrence.

It is desirable to sub-divide oil storage, in industrial installations, into units of 10,000 to 15,000 gallons each, so that in case of fire at one of the tanks, the oil involved will be limited and the situation handled.

In cases where there is absolutely no yard room and no available land in the vicinity for the storage of fuel oil, the tanks should be installed below the floor level, and it seems to be the opinion that in a structure built entirely of fire resisting material the installation of a tank of 10,000 gallons or less, entirely below the lowest floor level, will not introduce an unreasonable fire hazard.

Where yard room is available, above ground storage tanks are not objectionable from a fire risk standpoint, when they are situated at a sufficient distance from important or combustible buildings, so that they will not create an exposure, and particularly when the ground does not pitch or slope from the tanks to the buildings. These tanks, however, should be protected with suitable dykes of earth or concrete and provided with a capacity of 150 per cent of the tank capacity.

The recommended distance from important buildings is approximately 150 feet, for above ground storage tanks, up to 100,000 gallons, and for larger tanks a proportionately greater distance. Where the plant is located near a river or canal, the leakage of oil may permit the fuel to find its way into the water and float downstream. It is generally acknowledged that (taking all considerations into account) it is less objectionable, with underground tanks, to chance the risk of seepage to the water than to increase the hazard by exposure to costly buildings.

In some locations it is advisable to place the main storage tanks at some distance from the boilers, and to provide a small service tank to supply the service pumps. Should the distance be objectionable from the main storage, it is advisable to locate the service tank underground and, if possible, outside of the buildings, providing the same separation as would be required for a storage tank of the same size.

The service tank capacity is generally considered sufficient if it carries not more than a two days' supply.

By Special Correspondent

LOS ANGELES, Oct. 7.—Notwithstanding the greatly increased manufacture of California lubricants, the sale of the eastern product has certainly not fallen off on the Pacific coast. It is quite likely that the amount shipped in has actually increased somewhat over what it was a few years ago, but the eastern goods now constitute a much smaller percentage of the sales than they did six years ago. The change is due almost entirely to the increase in consumption, which has been enormous, and the bulk of the new consumption has gone to the California product.

Some months ago the Sun Company opened an office in Los Angeles for placing its lubricants on the Pacific coast market. Recently it put in a bid for supplying lubricants to the navy at Pacific ports. Jobbers handling eastern goods are numerous and appear to be doing well. The shortage of crude in California discourages refiners who have not already installed lubricating plants from doing so.

REFINERY-TANK WAGON MARKETS

Prices Fail To Reflect Season

THE past week marked the lowest point so far reached this year in prices of refined products generally. This applied particularly to gasoline, altho the cylinder stocks and lubricating oils generally shared the decline. Fuel oil, which it was expected before this time would begin to feel the effect of the usual seasonal demand, reached lower figures than those ruling a week ago.

The Joseph Seep Agency, effective October 11, put in effect a distinction in Somerset crude, which was posted at $4.25 a barrel, and posted a price of $4.50 for Somerset (Kentucky) 38 degrees and over. The agency also advanced the posted price of Cabell from $4.17 to $4.46.

Kerosene Shows Stiffening Tendency

Partly in response to the seasonal tendency and partly reflecing a considerable tho gradual increase in demand for export, kerosene held its ground pretty well during the week. At the north Texas refineries particularly, where in recently past weeks the product backed up to the point where the continued operation of refineries was threatened, it is now moving to a sufficient extent to keep up fairly closely with the daily output, altho the price has failed to reach the figure expected by October 1.

Just now it is gasoline that is backing up at those same plants as it is at the Mid-Continent refineries. In general, the Mid-Continent refiners are finding a better tone to the market, even tho gasoline was off during the past week from the figures of a week ago. The heavy oil market is firming at Tulsa and there is a general feeling that the market is becoming stabilized. The Standard of Louisiana, effective October 4, reduced the wholesale price of gasoline to dealers 1 cent a gallon, giving the jobber a margin of 3 cents a gallon.

Fuel Oil Market Problematical

While refiners generally find the price of fuel oil consistently weakening in tendency, those of the Mid-Continent territory are holding firm on their prices, strong in the belief that the coal supply for the coming winter will be precarious, and that such part of industry as is operating to capacity will have to depend on oil for its fuel.

The western Pennsylvania refiners are in many cases ready to contract their output of fuel oil over a considerable period at the present ruling market price, but they are finding the big users standoffish, the latter evidently believing that new low levels will yet be reached.

Gas Situation and Fuel Oil Market

One of the big factors in the fuel oil market at this season of the year has always been the fact that with the beginning of cold weather the industries using natural gas as fuel have been cut off from their supply, the gas being conserved for the heating of homes dependent upon it. This year, it is believed, the state of the natural gas supply in practically every industrial center where it holds a leading place as industrial fuel will cause an even greater restriction than usual upon its use in industry, and will therefore throw industrial plants to a greater extent than ever back upon fuel oil.

Pennsylvania Refiners See Brighter Outlook

By Special Correspondent

PITTSBURGH, Oct. 11.—Increasing numbers of inquiries at the end of the trade week led the western Pennsylvania refiners generally to hope that the past week marked the minimum in the refinery price list of their products, that period marking another round in a long ladder of declining prices.

Nearly all products showed a slight weakening from the prices ruling a week ago. Gasoline and the napthas led in the weakening. The fuel oil market is pretty much at a standstill, many of the refiners being willing to contract their output over a considerable period, probably until the first of the year, at the present market price, while the consumers generally are holding off on making contracts figuring that it is a buyers' market now and may go still lower. The bulk of the fuel oil moving during the past week went at around 11 cents.

A slight increase in demand for kerosene for export was reflected at the western Pennsylvania plants in a slight stiffening for the lower grades, while 47 water white maintained the position it has held for some weeks past, most of the comparatively small amount turned out moving at 14½ to 15 cents.

The cylinder stocks, neutrals and wax all shared in the weakening tendency.

Better Tone Ruling In Tulsa Markets

Staff Special

TULSA, Oct. 11.—While gasoline has shown a slight decline in price over last week's levels, there is a distinctly better tone to the present Mid-Continent market. Heavy oils, which have been on the toboggan for the past sixty days, have apparently reached the bottom and are firming up rapidly.

Anticipating early winter weather, jobbers are purchasing less 56 gasoline, buying a higher class product with a lower initial. This is particularly true of jobbers in the northwestern territories, as purchases made now reach this territory about the first of November. Tho the volume of naptha available now is much in excess of that of two months ago, the present price is prohibitive to casinghead manufacturers blending the product with 84 raw casinghead, as the present price of this blend is 20 cents.

Kerosene, whose price has caused refiners much mental pain and anguish, has steadied at 9¼-9½ cents, and is expected, with the near approach of

cold weather, to show no further slump. The present outlook for export relief for this product, however, is decidedly gloomy and a large domestic demand must develop to maintain the present price levels.

The rush by jobbers to cover on their lubricating requirements early in the spring resulted in storage being filled to capacity, a great percentage of which was purchased at premium prices. Reaction from this heavy buying is reflected in the present price of lubricating oils, which have shown a gradual decline over the last month or so.

Students of marketing conditions in the Mid-Continent field believe that the present prices obtaining for fuel and gas oil are the bottom figures for this product, and that the next few weeks will see an upturn in the market for heavier cuts. Refiners feel that unless there is a decided improvement in the feeling existing between mine workers and operators, production of coal will suffer materially, and the demand for fuel oil will mount correspondingly.

Gasoline, Fuel Oil Off; Kerosene Moving Well

Staff Special

FORT WORTH, Oct. 11.—Naptha has declined slightly at north Texas refineries as a result of continued drop in the gasoline market. The drop has not been so great, however, because of the comparatively small amount of naptha manufactured in this territory. And the demand is great enough to absorb practically all that is made. However, as use of naptha in this territory is entirely for blending with casinghead gasoline, when the price of straight run weakens naptha also feels the change.

The gasoline market has been and still is declining pretty rapidly, as evidenced by the amount of material being offered and prices at which larger refiners are willing to sell. The refiner who does not have a large amount to sell and who is in touch with buyers thruout the country is in position to get around 20 cents, and in some instances better prices, for his gasoline, but the refiner who has a large output he must move cannot possibly find a market that will give him that price for all his product. He can sell a part of it at the top of the market, but must take a lower price for part. If the situation is considered from that viewpoint, however, there is nothing surprising at the condition now existing in the gasoline market.

There can be no disputing there is more gasoline now being manufactured than can be taken care of by the domestic trade. Exports act as a safety valve, and if there is good export demand the markets are healthy. If not, it does not take long for markets to weaken after stocks begin to overflow. It simply becomes a matter of reducing the price to a level where the commodity will move or cease manufacturing it. Unless the export market soon opens up refiners will have to continue reducing their prices, as the law of supply and demand cannot help making itself felt.

The kerosene market seems fairly steady and shows little change over the week. Practically all north Texas re-

Refinery Markets, All Products

Pennsylvania, Oklahoma, North and South Texas

FOLLOWING are the average market prices on the more important petroleum products in cents per gallon f. o. b. refinery in Oklahoma, Texas and Pennsylvania. These are actual prices at which the bulk of each product is moving from the refineries at the present time. Anyone having knowledge of different prices which have obtained on any considerable quantity of any of the products mentioned will greatly favor us by advising us at once.

Prices effective Oct. 11.

GASOLINE AND NAPTHAS

Pennsylvania	Prices, Oct. 11
54 Naptha	23½-24
56 Naptha	24⅜-24¾
58 Naptha	24½-24¾
60 Straight-run gasoline	25 -25½
62 Straight-run gasoline	26
64 Straight-run gasoline	26¼-27
68 Straight-run gasoline	28⅛-28¾
58-60 Blend, 460 end point	23½-24
60-62 Blend, 450 end point	23⅝-24
62-64 Blend, 450 end point	23½-24
66-68 Blend, 440 end point	23⅝-24
60-70 Blend, 440 end point	23½-24
68-70 Blend, 420 end point	23½-24

Oklahoma

50-52, 450 end point	20 -20½
56-58, 450 end point	20½-21
58-60, 430-440 end point	21¼-21½
60-62, 400 end point	23 -23½
62-64, 375 end point	23½-24
64-66, 365 end point	24¼-25
58-60, 140 i. b. p.-428 end point	21¾-22
80-84 Raw Casinghead	20 -21
68-70 Blend, 430-435 end point	20 -20½
66-68 Blend, 450 end point	20 -20½
60-62 Blend, 450 end point	20 -20½
58-60 Blend, 440-450 end point	20 -20½
74-76 Absorption Gasoline	22 -22½

North Texas

52-54, 460-470 end point naptha	18¾-19¼
54-56, 450-460 end point naptha	19 -19½
56-58, 450 end point gasoline	19 -19½
58-60, 440 end point gasoline	19¼-19¾
60-62, 400 end point gasoline	23 -23½
64-66, 360-375 end point gasoline	23½-24
New Navy Specification gasoline	19½-20

BURNING OILS

Pennsylvania

45 Prime White	13¼
46 Water White	14
47 Water White	14¾-15
300 Burning Oil	14¾-15

Oklahoma

42-43	9¼-9½
44-46	15-15½
42-43 Distillate	9-9¼

North Texas

40-41 Prime White distillate	8½-9¼
41-42 Prime White kerosene	9 -9½
42-43 Water White kerosene	9¼- 9¾

NEUTRAL OILS

Pennsylvania	Prices, Oct. 11
200 Vis. No. 3 Assoc. Filt.	31 -32
180 Vis. No. 3 Assoc. Filt	29 -30
150 Vis. No. 3 Assoc. Filt	25

Oklahoma
(Vis. test 70)

100 Vis. No. 2 Color	14 -15
200 Vis. No. 3 Color	24 -25
160 Vis. No. 4 Color	22½-23½
200 Vis. No. 4 Color	23 -24
200 Vis. No. 5 Color	22½-23

South Texas
(Vis. test 100; cold test 0)

70 Vis. No. 2 Color Unfilt. Pale	16 -17
100 Vis. No. 2 Color Unfilt. Pale	17¼-18
150 Vis. No. 2½ Color Unfilt. Pale	23 -24
200 Vis. No. 3 Color Unfilt. Pale	27 -31½
300 Vis. No. 3 Color Unfilt. Pale	32 -34½
500 Vis. No. 3½ Color Unfilt. Pale	40 -42½
750 Vis. No. 4 Color Unfilt. Pale	50 -53¼
70 Vis. No. 1½ Color Filt. Pale	22¾
100 Vis. No. 1½ Color Filt. Pale	28½
150 Vis. No. 1½ Color Filt. Pale	32½
200 Vis. No. 2 Color Filt. Pale	37¾
300 Vis. No. 2 Color Filt. Pale	42¼
500 Vis. No. 2½ Color Filt. Pale	47¾
750 Vis. No. 2½ Color Filt. Pale	58
200 Vis. No. 5½ Color Red Oil	26 -27¾
300 Vis. No. 5½ Color Red Oil	31 -33
500 Vis. No. 6 Color Red Oil	38½-39

CYLINDER STOCKS

Pennsylvania

600 Steam Refined	34
635 Steam Refined	40 -42
650 Steam Refined	48
600 Flash	58 -61
600 Amber Filtered	54
600 Medium Filtered (D)	63 -64
Cold Test Stocks (bright filtered)	85
Cold Test Stocks (dark filtered)	83

WAX

Pennsylvania

122-124 White Crude Scale Wax, N. Y., lb.	8
124-126 White Crude Scale Wax, N. Y., lb.	8½

Oklahoma

122-124 White Crude Scale Wax	7½- 7¾

FUEL OIL

Pennsylvania

36-40 Fuel Oil	11

Oklahoma

32-36 Gas Oil (gal.)	6¾ -7
24-26 Fuel Oil (bbl.)	$2.50-$2.60
Fuel Oil, buyers' cars (bbl.)	$2.35-$2.45

North Texas

32-36 Gas Oil (gal.)	7 -7¾
24-26 Fuel, per bbl	$2.60-$2.70
26-28 Fuel, per bbl	$2.70-$2.80

South Texas

South Texas fuel per bbl	$3.15-$3.25

ACME

PETROLEUM PRODUCTS

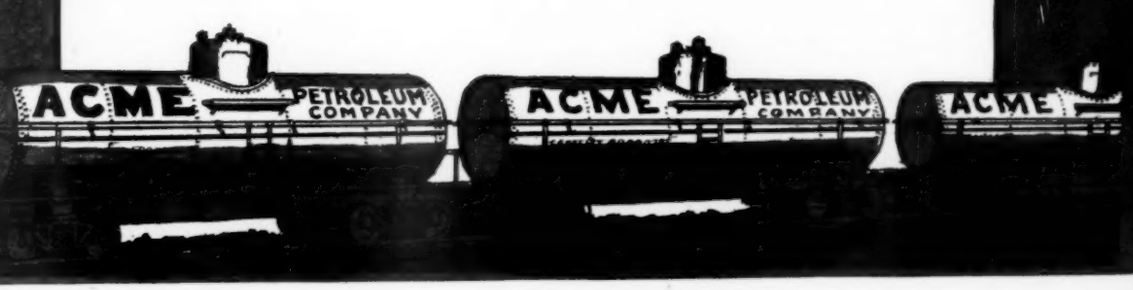
ACME

Fuel Oil Consumers

WHEN gas is shut off or coal shortage affects your manufacturing, you will undoubtedly resort to oil and will want prompt shipment.

If you place your orders with us you will realize what *"Acme Service"* is.

Single Cars or Trainloads from refineries or our own storage.



ACME PETROLEUM COMPANY

General Offices—

910 South Michigan Ave.
Telephone Harrison 377 or 378

Chicago, Illinois

TULSA OFFICE
Atco Building
Telephone Osage 8800 and L. D. 78

DALLAS OFFICE
Boger Building
Telephone X-580 and L. D. 380

KANSAS CITY OFFICE
Security Building
Telephone (Bell—Grand 1800 / Home—Main 8400)

Allows 3-Cent Margin

NEW ORLEANS, Oct. 7.—The Standard Oil Company of Louisiana, on October 4, reduced the price of gasoline to dealers 1 cent a gallon without making any reduction in the filling station price, thereby giving the dealer a differential of 3 cents a gallon instead of 2 cents which he has hitherto enjoyed.

finers are in good shape so far as kerosene is concerned, as sufficient purchases have been made in the last thirty days to take care of any surplus which might accumulate did not some of the larger buyers come into the market. Kerosene, however, is not fulfilling expectations, as few persons in touch with market conditions doubted it would it would be bringing 10 cents by October 1. Export demand is to blame for low price of kerosene.

Gas oil, while no considerable north Texas factor, has felt effects of the slump. Comparatively few refiners in this territory make the gas oil cut, but those few realize that demand is not what it should be at this season. Fuel oil is the worst disappointment of all.

With good prices on other products the refiner can stand a relatively low price on fuel ,but with gasoline and kerosene selling at low levels and crude at the peak in the industry's history. Low fuel may be well considered the last straw. Thirty days ago $3.25 fuel was considered an assured fact, but now it is only a fond hope of the future. However, every one feels that fuel and gas oil will come back strong after the end of the month.

Expect Strong Market For 'Lubs' In Texas

Staff Special

HOUSTON, Oct. 11.—Increasing inquiries and the movement in September by one of the principal south Texas lub refineries of its record month's business, together with a generally firmer tone featured the week's market situation. With the season at hand when zero oils begin to pick up in demand, it was predicted in more quarters than one that the low range of lub prices quoted recently probably would be the minimum price for several months unless something radical and unforeseen became a factor in the market.

Refiners did not share the trepidation toward the crude market with which some producers viewed the proving of the Blue Ridge salt dome as probable important producing territory following closely upon the heels of greatly augmented production north of the Abrams well at West Columbia. At Blue Ridge the Gulf holds most of the acreage surrounding its 2,000-barrel well, and at West Columbia the highly flush character of the oil from the 50 acres held by others than the Texas Company does not promise long sustained flow at anything like the maximum. Humble Oil & Refining Company with more than 20,000 barrels of owned production at West Colum-

Tank Wagon, Service Station Markets

Gasoline and Kerosene

BELOW are given in cents a gallon service station and tank wagon quotations on gasoline and tank wagon quotations for kerosene, as quoted by the Standard Oil Companies, the points at which prices are given being arranged by Standard Oil marketing districts. By tank wagon price is meant the price to reselling agents and not the price from the tank wagon to consumers.

	Gasoline Tank Wagon Oct. 11	Gasoline Service Station Oct. 11	Oil Tank Wagon Oct. 11
S. O. NEW JERSEY DISTRICT			
Atlantic City, N. J.	29.5	31.5	18.5
Newark, N. J.	29.5	31.5	18.5
Annapolis, Md.	30.5	32.5	19
Baltimore, Md.	29.5	31.5	18
Washington, D. C.	29.5	31.5	18.5
Danville, Va.	31	33	19.5
Norfolk, Va.	30	32	18.5
Petersburg, Va.	30.5	32.5	20
Richmond, Va.	30	32	18.5
Roanoke, Va.	31.5	33.5	20
Charleston, W. Va.	30.5	32.5	19
Keyser, W. Va.	31	33	19.5
Parkersburg, W. Va.	29.5	31.5	18
Wheeling, W. Va.	30.5	32.5	19
Charlotte, N. C.	31	33.5	20.5
Hickory, N. C.	31.5	33.5	21
Mt. Airy, N. C.	31.5	33.5	21
Salisbury, N. C.	31.5	33.5	21
Charleston, S. C.	30.5	32.5	19
Columbia, S. C.	32	34	20.5
S. O. NEW YORK DISTRICT			
New York, N. Y.	31	33	19
Albany, N. Y.	32	34	20
Buffalo, N. Y.	32	34	20
Syracuse, N. Y.	32	34	20
Boston, Mass.	32	34	20
Burlington, Vt.	32	34	20
Bridgeport, Conn.	32	34	20
Hartford, Conn.	32	34	20
New London, Conn.	32	34	20
Providence, R. I.	32	34	20
Augusta Me.	32	34	20
Portland, Me.	32	34	20

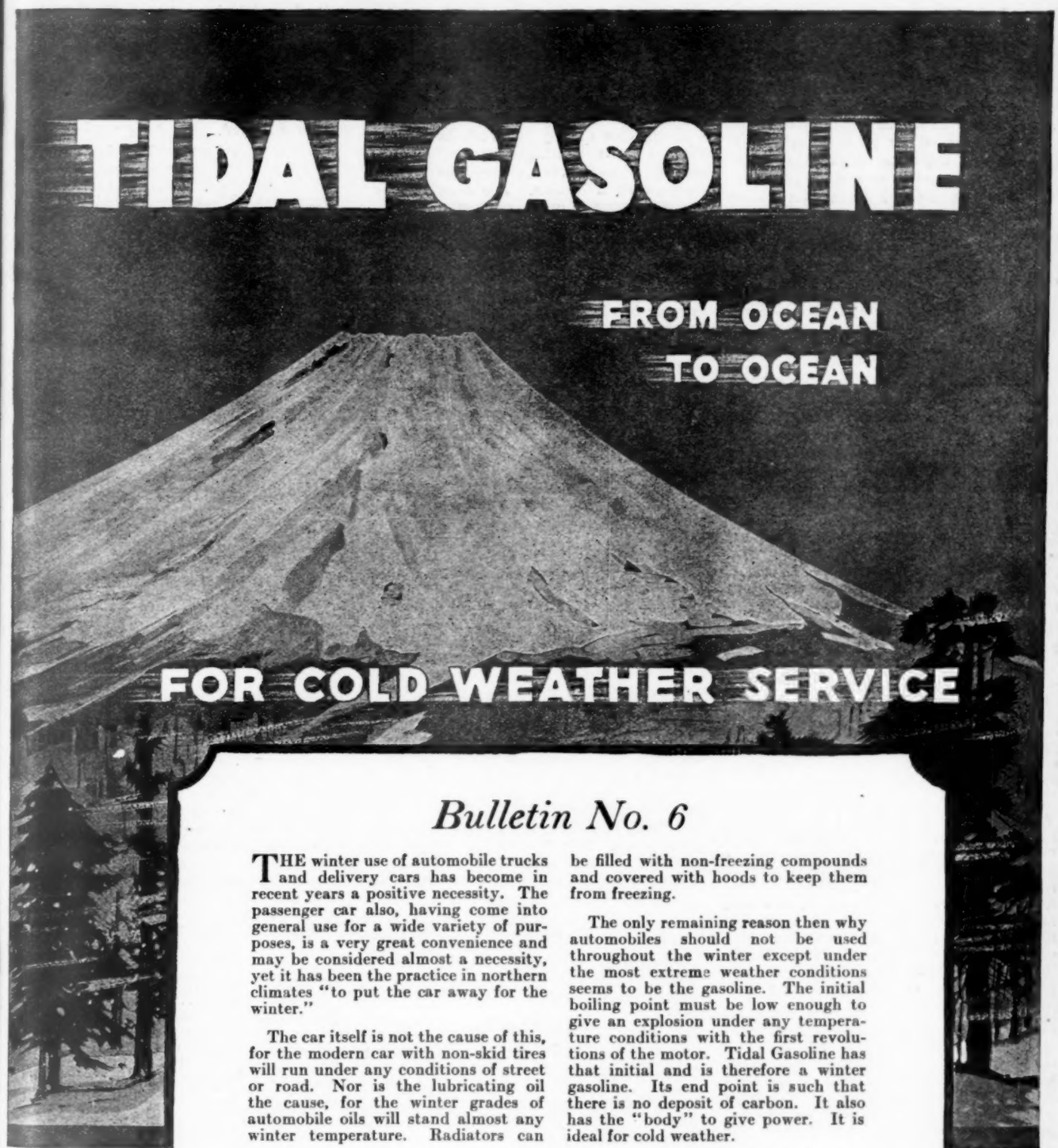
NOTE.—Atlantic Refining Company on September 2 advanced its price on gasoline at Providence, R. I., Hartford, Conn., New Haven, Conn., Worcester, Mass. and Springfield, Mass., making the service station price 35 cents and the tank wagon price 10 per cent less, or 31.5 cents. The increase was one cent on service station and, nine-tenths cent tank wagon.

ATLANTIC REFINING DISTRICT			
Pittsburgh, Pa.	30.6	34	20
Philadelphia, Pa.	30.6	34	20
Dover, Del.	30.6	34	20
Wilmington, Del.	30.6	34	20
S. O. OHIO DISTRICT			
Cleveland, Ohio.	30	31	21

NOTE—Tank wagon markets at all points in Ohio are the same as for Cleveland.

S. O. KENTUCKY DISTRICT			
Lexington, Ky.	29	31	20
Louisville, Ky.	28	30	19
Bowling Green, Ky.	29.5	31.5	20.5
Jackson, Miss.	28.5	30.5	19.5
Natchez, Miss.	28.5	30.5	19.5
Birmingham, Ala.	30	32	21
Mobile, Ala.	30	32	20
Atlanta, Ga.	30	32	20.5
Augusta, Ga.	30	32	20.5
Savannah, Ga.	30	32	20.5
Fort Myers, Fla.	30.5	32.5	21.5
Tampa, Fla.	29.5	31.5	20.5
S. O. LOUISIANA DISTRICT			
Camden, Ark.	29	32	22
Little Rock, Ark.	29	32	22
Baton Rouge, La.	25.5	28.5	17
New Orleans, La.	26.5	29.5	18
Shreveport, La.	27.5	30.5	19
Chattanooga, Tenn.	29.5	32.5	21
Nashville, Tenn.	28.5	31.5	20.5
Memphis, Tenn.	28	31	20
Nashville, Tenn.	28.5	31.5	20.5

	Gasoline Tank Wagon Oct. 11	Gasoline Service Station Oct. 11	Oil Tank Wagon Oc. 11
MAGNOLIA PETROLEUM DISTRICT			
Muskogee, Okla.	30	32	21
Oklahoma City, Okla.	29	31	19
Tulsa, Okla.	28	30	20
Fort Smith, Ark.	28.5	30.5	21
Texarkana, Ark.	30	32	21
Amarillo, Texas.	31	33	22
Dallas, Texas.	28	30	21
El Paso, Texas.	29	31	22
Fort Worth, Texas.	28	30	21
Galveston, Texas.	28	30	21
Houston, Texas.	28	30	21
S. O. INDIANA DISTRICT			
Chicago, Ill.	27	29	18.5
East St. Louis, Ill.	28.3	29.3	18
Peoria, Ill.	28.5	29.5	19.2
Indianapolis, Ind.	28.3	29.3	19
Fort Wayne, Ind.	28.4	29.4	19.5
Bay City. Mich.	28.9	29.9	19.7
Detroit, Mich.	28.8	29.8	19.6
St. Louis, Mo.	26.2	28.5	19
Kansas City, Kans.	26.5	27.5	17.2
Topeka, Kans.	27.8	28.8	17.6
Wichita, Kans.	27.1	28.1	17.5
Des Moines, Ia.	28.5	29.5	19.5
Keokuk, Ia.	28.4	29.4	19.1
Sioux City, Ia.	28.5	29.5	19.3
La Crosse, Wis.	29	30	19.8
Milwaukee, Wis.	27.9	28.9	18.7
Madison, Wis.	28.1	29.1	18.9
Minneapolis, Minn.	28.2	30.2	20
Pipestone, Minn.	29.3	30.3	20
Aberdeen, S. D.	30.1	31.1	20.6
Sioux Falls, S. D.	30.1	31.1	20
Bismarck, N. D.	33.6	34.6	23.3
Fargo, N. D.	32	33	21.7
Grand Forks, N. D.	32.3	33.3	22
Minot, N. D.	34.4	35.4	24.1
Bartlesville, Okla.	27.3	28.3	17.7
S. O. NEBRASKA DISTRICT			
Crawford, Neb.	30	30	21
Omaha, Neb.	29.5	29.5	19.75
CONTINENTAL OIL DISTRICT			
Denver, Colo.	32	34	23
Glenwood Springs, Colo.	36	38	26.5
Pueblo, Colo.	32	34	23
Basin, Wyo.	29.5	31.5	20
Casper, Wyo.	28	30	18.5
Cody, Wyo.	31.5	33.5	22
Cheyenne, Wyo.	31.5	33.5	22
Lander, Wyo.	30.5	32.5	21
Billings, Mont.	31.5	33.5	22.5
Butte, Mont.	33.5	35.5	24.5
Great Falls, Mont.	33.5	35.5	24.5
Helena, Mont.	33.5	35.5	24.5
Miles City, Mont.	33.5	35.5	24.5
Ogden, Utah.	32	34	22.5
Salt Lake City, Utah.	32	34	22.5
Boise, Idaho.	34.5	36.5	25
Albuquerque, N. M.	33.5	35.5	25
S. O. CALIFORNIA DISTRICT			
Phoenix, Ariz.	37	37	23.5
Los Angeles, Cal.	27	27	16.5
Fresno, Cal.	28	28	19
San Francisco, Cal.	27	27	16.5
Reno, Nev.	35	35	26.5
Portland, Ore.	29	29	17.5
Seattle, Wash.	28	28	17.5
Spokane, Wash.	32	32	23.5
Tacoma, Wash.	28	28	17.5



Bulletin No. 6

THE winter use of automobile trucks and delivery cars has become in recent years a positive necessity. The passenger car also, having come into general use for a wide variety of purposes, is a very great convenience and may be considered almost a necessity, yet it has been the practice in northern climates "to put the car away for the winter."

The car itself is not the cause of this, for the modern car with non-skid tires will run under any conditions of street or road. Nor is the lubricating oil the cause, for the winter grades of automobile oils will stand almost any winter temperature. Radiators can be filled with non-freezing compounds and covered with hoods to keep them from freezing.

The only remaining reason then why automobiles should not be used throughout the winter except under the most extreme weather conditions seems to be the gasoline. The initial boiling point must be low enough to give an explosion under any temperature conditions with the first revolutions of the motor. Tidal Gasoline has that initial and is therefore a winter gasoline. Its end point is such that there is no deposit of carbon. It also has the "body" to give power. It is ideal for cold weather.

W. Mabee, M.E.
General Manager

A Win-Sum Gasoline for Winter and Summer

At the Service of a Limited Number of Dependable Jobbers

Quick Starting
Maximum Power
Uniform Supply

Wire or Write

TIDAL GASOLINE COMPANY

Tidal Building—Tulsa, Oklahoma

Subsidiary to the TIDEWATER OIL CO., NEW YORK, Manufacturers of Veedol

bia, and the Texas Company the other of the two largest producers are definitely out of the market as purchasers and theirs are the only pipe lines into the field. Possible prorating of runs to follow other completions on this 50 acres might break the market as feared by producers, but it is generally felt the West Columbia situation is a local one and properly should be considered from this viewpoint.

Kerosene Is Stronger In Export Market

By Special Correspondent

NEW YORK, Oct. 11.—There have been no notable developments in the export situation during the week, and general trading has settled into a more or less routine stage. The demand for gasoline is sufficiently well maintained to keep it in front rank. While the leading companies report steadily increasing facility in covering the more pressing requirements, a number of the inquiries still have to be passed, and occasional advertisements are noted in the daily commercial papers for export supplies.

Kerosene is gaining steadily in export favor, and the general run of orders finds ready fulfillment. In some quarters, however, it is stated that bids by outside export houses will be subjected to almost the same restriction as has been followed on gasoline, at least until the process of covering the requirements of the affiliated companies abroad has been effected.

Details of August exports from New York, summarized, show a total of 41,832,892 gallons ($13,046,621), compared with 40,068,214 gallons ($12,456,920) for July. Gains in kerosene, gasoline, fuel and gas oil and residuum offset losses in other napthas, lubricants and crude oil. A feature of the August record was the heavy gain of shipments of kerosene to Germany, 4,658,581 gallons against 1,000,150 gallons for July, putting the country sharply in the lead.

There have been no new developments concerning prices for export, and the easing tendency of the home markets on refined grades has been without appreciable bearing on the tone of the export situation. Casing supplies are reported to be adequate for general shipments, but barrels are still scarce and high.

One of the featuring developments of the foreign exchange situation was the sharp break in Italian rates, on the political, industrial and financial unsettlement, but toward the close a recovering tendency was in effect. English sterling showed a slight net loss, but the closing trend was firmer. Francs and marks were a shade easier. Of favorable portent was the news from Brussels, indicating that an important step toward the organization of an international credit system, an international clearing house and a permanent organization for collecting and distributing information about the financial situation of the different countries are the tangible results of the international financial conference.

Reaction Is Apparent In Refiners' Supplies

NEW YORK, Oct. 11.—Developments in the markets for refiners' and jobbers' supplies during the week have contributed more strikingly to buyers' advantage, almost every change in the list representing a decline. The naval stores situation stands out as one of the most significant instances of reaction. Turpentine in the local trade closed at $1.30 a gallon from yard, 16 cents below the previous basis, while Savannah has weakened from $1.35½ to $1.21. The weakness in rosin has been less marked, spot prices being off 10 cents on B-H and 15 to 25 cents on the paler grades, and Savannah was lower by 7½ to 10 cents on all but B, which was 2½ cents firmer. Local competition has really played a more important part in the unsettlement of the market than the primary developments, especially on rosin.

The lower prices named on rosin here are not generally met, and it is intimated that the sharper cutting practices have reflected a speculative purpose. The same spirit is said to have prevailed in Savannah operations, with the intention of influencing the Jacksonville market, the dominant factor on rosin, for covering advantage. The demand for turpentine and rosin has been slack in all quarters. Local prices for tar and rosin oils have undergone no quotable changes during the week, the nominal steadiness of these markets being attributed to the light available supplies.

Another market which has been subjected to weakening influences has been linseed oil. The dormant state of trading and the sharp break in seed prices have caused a recession in local oil quotations from $1.15 for cars and $1.18 for less, October shipment, to $1.07-$1.10. The current basis represents a low level for nearly three years. The peak of the market was reached at $2.22 for cars July 25, 1919, due chiefly to the acuteness of the seed shortage. Futures at this time are particularly unsettled, most crushers believing it more advisable to withhold their views, unless on actual test. On a firm bid there is little doubt that $1 could be done for November forward.

Declines in cotton seed oil have had a disturbing effect on soya bean and the other vegetable oils of a competing character. Bean oil has been offered for shipment from the Pacific coast at 9¼ cents per pound, but buyers' views are around 8¾ cents, and 9 cents can undoubtedly be done on a firm bid. Spot oil is around 13 cents. The general list of animal and fish oils has continued dull and devoid of special interest. In the absence of determining tests, quotations are repeated, but they are largely nominal. The 48-cent price that was given on crude menhaden oil, Baltimore shipment, proved to be on a special offer of high-acid oil. For prime low-acid test, the market is 50 cents. There is practically no trading in crude and only a routine interest is shown in refined grades.

Outside selling pressure has continued a disturbing factor on caustic soda, with a further recession to 4.15 cents per pound on spot, but toward the close a steadier sentiment developed on the clearing of the most disturbing resale lots and good inquiries for export. There has been little disposition on the part of the larger consumers to close contracts for next year on the basis lately named, 4 cents, basis 60 per cent from works for solid and 6 cents flat for ground. Second-hand offers of soda ash have been reported sold at 2½ cents for double bags. For single bags 2.65 cents has been the basis for sales from works. Chloride of lime (bleaching powder) has developed an easier position on export stock, and sales have been reported at 6½ cents a pound. Benzol and toluol continue firm at the lately-prevailing basis, with the production well absorbed on contracts and available supplies limited.

Refiners' and Jobbers' Supplies

Following are the average market prices for the week on the principal materials used by refiners and jobbers, f. o. b. shipping point as effective Oct. 11 1920.

Refiners' Supplies

	Oct. 4	Oct. 11
Soda Ash, light, single bags	$2.65 cwt.	$2.65 cwt.
Silicate of Soda 60 deg.	2.90 cwt.	2.90 cwt.
Sal Soda	2.00 cwt.	2.00 cwt.
Caustic Soda, solid—		
Works	4.25 cwt.	4.25 cwt.
New York	4.10 cwt.	4.75 cwt.
Sulphuric Acid, tank cars, f. o. b. sellers' shipping point	20.00 ton	20.00 ton
Benzol, pure, water-white 35c gal.		35c gal.
90%	33c gal.	33c gal.
Toluol pure water white	35c gal.	35c gal.

Jobbers' Supplies

The following prices represent the open New York market in jobbing quantities, unless otherwise specified—

English Degras	6c lb.	6½c lb.
Domestic Degras	5½c lb.	6c lb.
Chloride of Lime	$7.50 cwt.	$6.25 cwt.
Lard Oil—		
Winter Strained	1.40 gal.	1.45 gal.
Extra No. 1	1.30 gal.	1.27 gal.

	Oct. 4	Oct. 11
No. 1	$1.20 gal.	$1.20 gal.
No. 2 Lard	1.10 gal.	1.10 gal.
Neatsfoot Oil—		
Extra Np. 1	1.55 gal.	1.55 gal.
Pure Refined	1.40 gal.	1.40 gal.
No. 1	1.30 gal.	1.30 gal.
Tallow Oil	1.25 gal.	1.25 gal.
Menhaden Fish Oil—		
Light pressed	.80 gal.	.80 gal.
Winter Bleached	.85 gal.	.85 gal.
Extra winter bleached	.90 gal.	.90 gal.
Whale Oil—		
Extra winter bleached	1.30 gal.	1.30 gal.
Soya Bean Oil	13c lb.	13c lb.
Linseed Oil, Oct	1.12 gal.	1.07 gal.
Herring Oil	.75 gal.	.75 gal.
Seal Oil		1.75 gal. nominal
Rosin B, N. Y.	13.0 0	12.90
Rosin F, N. Y.	13 00	12.90
*Rosin B	11.40	11.30
*Rosin F	11.50	11.30
Rosin Oil, 1st run	.70 gal.	.70 gal.
Rosin Oil, 2nd run	.72½ gal.	.72½ gal.
Turpentine, N. Y.	1.37 gal.	1.30 gal.
*Turpentine	1.27½ gal.	1.21 gal.
Pine Tar—		
Kiln Burnt Oil, bbls	15.00	15.00
Retort Oil, bbls	15.25	15.25

*Savannah, Ga., market.

We do not believe it would have been possible to have expanded our market or to have added to our list of regular customers so rapidly had we, for one moment, lost sight of the great fundamental principles of trade development—dependable service and quality products.

Straight run "*Top Notch*" gasoline (Phœnix Refining Division)
Kerosene, gas oil and fuel oil (Phœnix Refining Division)
Absorption, casinghead and blended gasoline.

Chestnut & Smith Corporation,
Tulsa, Oklahoma.

Foreign Opportunities

The following information as to inquiries for American products is taken from the Commerce Reports gotten out daily by the bureau of foreign and domestic commerce of the United States Department of Commerce. Reserved information may be obtained by addressing the bureau at Washington, giving the number of the opportunity about which further details are desired.

33822.—A firm of agents for machinery and industrial supplies in FINLAND desires to secure an agency for the sale of LUBRICATING OILS and GREASES. No reference offered.

33680.—A mercantile firm in SPAIN desires to purchase PETROLEUM in bulk, 10 tons per month. Quotations should be given c. i. f. Spanish port. Correspondence should be in Spanish.

33740.—A manufacturing firm in AUSTRIA desires to receive quotations on American CYLINDER AND MACHINE OIL, c. i. f. Hamburg or Bremen. Payment to be made against documents.

33838.—An import and export agent in JUGOSLAVIA desires to establish commercial relations with firms handling CHEMICAL PRODUCTS, OILS and FATS. Correspondence may be in English.

33751.—A mercantile firm in FRANCE desires to secure the representation or purchase from American firms, FATS and GREASES and CHEMICAL PRODUCTS in general. Correspondence should be in French.

33737.—An agency is desired by an inquirer in ITALY for the sale of saws, motors, belting, LUBRICATING OILS, automobiles and accessories, and rubber goods. Correspondence should be in Italian, tho English may be used. References.

33747.—A commercial agent in ITALY desires to purchase and secure an agency for the sale of CHEMICAL PRODUCTS. Quotations should be given c. i. f. Genoa. Payment to be made thru American banks. Correspondence should be in Italian, Spanish, or French. References.

33595.—A merchant in FRANCE desires to purchase or secure an agency for the sale of GREASES, PARAFFIN, lard, WAX and mineral soap. Quotations should be given c. i. f. French port. Payment thru bank upon receipt of goods. Correspondence should be in French, and it is preferred that the metric system be used. References.

WASHINGTON, Oct. 10. — The Fawn Creek Oil & Gas Company, of New Orleans, has been cited by the Federal Trade Commission to answer a complaint alleging unfair competition in the sale of its stock in interstate commerce. The company is required to answer averments that it has used certain false and misleading statements with respect to the location of its lands, the drilling of oil wells and the disposition of money received from stock to promote the sale of its stock to the public.

Crude Production, Consumption and Stocks

As Reported by U. S. Geological Survey

THE column headed Production shows the quantity of oil received from producers by pipe line and other marketing companies and by refineries that receive the crude directly from the well. Figures as to oil consumed on leases and producers' stocks are not included except for California, which include all petroleum brought to the surface.

The column headed Delivered to Consumers includes figures on domestic crude petroleum delivered to consumers by pipe lines and other marketing companies.

Stocks include domestic crude held in storage on the last day of the month by pipe lines and other marketing companies. Crude oil delivered to refiners is not included nor is petroleum held in storage by producers on leases. Figures are in barrels of 42 gallons.

Field	Production	Delivered to Consumers	Stocks
APPALACHIAN			
Total, 1919	29,232,000	28,922,000	Mar. 31, 4,316,000
May, 1920	2,488,000	2,615,000	May 31, 4,121,000
June, 1920	2,658,000	2,696,000	June 30, 4,083,000
July, 1920	2,613,000	2,799,000	July 31, 3,922,000
Aug., 1920	2,649,000	2,641,000	Aug. 31, 3,930,000
LIMA-INDIANA			
Total, 1919	3,444,000	3,442,000	Mar. 31, 1,237,000
May, 1920	270,000	189,000	May 31, 1,303,000
June, 1920	271,000	219,000	June 30, 1,355,000
July, 1920	275,000	191,000	July 31, 1,439,000
Aug., 1920	266,000	158,000	Aug. 31, 1,547,000
ILLINOIS			
Total, 1919	12,436,000	10,165,000	Mar. 31, 3,918,000
May, 1920	935,000	1,119,000	May 31, 3,711,000
June, 1920	931,000	1,064,000	June 30, 3,578,000
July, 1920	925,000	1,099,000	July 31, 3,404,000
Aug., 1920	924,000	1,091,000	Aug. 31, 3,327,000
ALL MID-CONTINENT (Okla., Kans., Central and North Texas, North La.)			
Total, 1919	196,891,000	198,901,000	Mar. 31, 78,188,000
May, 1920	21,100,000	20,589,000	May 31, 78,951,000
June, 1920	21,484,000	17,782,000	June 30, 82,653,000
July, 1920	22,124,000	19,184,000	July 31, 85,681,000
Aug., 1920	22,357,000	20,765,000	Aug. 31, 87,273,000

Oklahoma-Kansas	Production	Central North Texas	Production
May, 1920	12,609,000	May, 1920	5,639,000
June, 1920	12,592,000	June, 1920	5,776,000
July, 1920	12,919,000	July, 1920	5,912,000
Aug. 1920	13,089,000	Aug., 1920	5,894,000

North Louisiana	Production
May, 1920	2,852,000
June, 1920	3,116,000
July, 1920	3,293,000
Aug., 1920	3,374,000

GULF COAST	Production	Delivered to Consumers	Stocks
Total, 1919	20,568,000	17,417,000	Mar. 31, 11,489,000
May, 1920	2,043,000	2,158,000	May 31, 11,133,000
June, 1920	2,042,000	2,453,000	June 30, 10,722,000
July, 1920	2,296,000	2,640,000	July 31, 10,377,000
Aug., 1920	2,408,000	2,173,000	Aug. 31, 10,612,000
ROCKY MOUNTAIN			
Total, 1919	20,568,000	17,417,000	Mar. 31, 227,000
May, 1920	1,387,000	1,408,000	May 31, 217,000
June, 1920	1,643,000	1,637,000	June 30, 223,000
July, 1920	1,603,000	1,598,000	July 31, 228,000
Aug., 1920	1,543,000	1,520,000	Aug. 31, 251,000
CALIFORNIA			
Total, 1919	101,564,000	103,016,000	Mar. 31, 26,222,000
May, 1920	8,636,000	9,155,000	May 31, 25,253,000
June, 1920	8,190,000	9,383,000	June 30, 24,060,000
July, 1920	8,583,000	9,526,000	July 31, 23,117,000
Aug., 1920	8,997,000	9,965,000	Aug. 31, 22,149,000

"Western Petroleum" Trade Bulletin

Form 1201 &

CLASS OF SERVICE	SYMBOL
Day Message	
Day Letter	Blue
Night Message	Nite
Night Letter	N L

If none of these three symbols appears after the check (number of words) this is a day message. Otherwise its character is indicated by the symbol appearing after the check.

WESTERN UNION TELEGRAM

NEWCOMB CARLTON, PRESIDENT GEORGE W. E. ATKINS, FIRST VICE-PRESIDENT

CLASS OF SERVICE	SYMBOL
Day Message	
Day Letter	Blue
Night Message	Nite
Night Letter	N L

If none of these three symbols appears after the check (number of words) this is a day message. Otherwise its character is indicated by the symbol appearing after the check.

RECEIVED AT ROSE BLDG., 2040 EAST 9TH STREET, CLEVELAND

CHICAGO, ILL., OCT. 12, 1920

NATIONAL PETROLEUM NEWS
CAXTON BUILDING
CLEVELAND OHIO

OIL INDUSTRY TRYING TO GO HENRY FORD ONE BETTER

J. M. CARSON SALES MANAGER
WESTERN PETROLEUM COMPANY

TULSA, OKLAHOMA
Cosden Bldg.

NEW YORK CITY
17 Battery Place
Direct All Eastern Inquiries to This Office

Western Petroleum Company
208 South La Salle ST Chicago, Ill.

Crude Oil Quotations From All Fields

Price Changes From September 1, 1919, To Date

EASTERN FIELDS

Pennsylvania

1919—Sept. 2 +25¢—Nov. 7 +25¢—Dec. 22 +25¢—Dec. 31 +25
1920—Jan. 26 +25¢—Feb. 5 +25¢—Feb. 17 +25¢—Feb. 27 +15¢—Mar. 1 +15¢—Mar. 2 +15¢

Cabell

1919—Sept. 2 +10¢—Nov. 7 +15¢—Dec. 22 +25¢—Dec. 31 +15c
1920—Feb. 28 +25¢—May 11 +25c

Wooster

1919—Sept. 8 +10¢—Nov. 21 +25¢
1920—Jan. 12 +25¢—Mar. 1 +10¢—Mar. 10 +25¢

Corning

1919—Sept. 2 +10¢—Nov. 7 +15¢—Dec. 22 +25¢—Dec. 31 +15¢
1920—Mar. 10 +15¢—Mar. 19 +10¢—Mar. 30 +25¢—May 15 +25¢

North Lima

1919—Sept. 8 +10¢—Nov. 21 +25¢—Dec. 22 +25¢
1920—Jan. 12 +25¢—Mar. 1 +25¢—Mar. 10 +25¢

South Lima

1919—Sept. 8 +10¢—Nov. 21 +25¢—Dec. 22 +25¢
1920—Jan. 12 +25¢—Mar. 1 +25¢—Mar. 10 +25¢

Indiana

1919—Sept. 8 +10¢—Nov. 21 +25¢—Dec. 22 +25¢
1920—Jan. 12 +25¢—Mar. 1 +25¢—Mar. 10 +25¢

Princeton

1919—Sept. 8 +10¢—Nov. 21 +25¢—Dec. 22 +25¢
1920—Jan. 12 +25¢—Mar. 1 +25¢—Mar. 10 +25¢

Somerset

1919—Sept. 2 +10¢—Nov. 7 +15¢—Dec. 22 +25¢—Dec. 31 +15¢
1920—Feb. 27 +15¢—Mar. 10 +25¢—May 10 +25¢—Sept. 23 +25¢

Ragland

1919—Nov. 7 +10¢—Dec. 22 +25¢—Dec. 31 +15¢
1920—May 10 +35¢—July 20 +25¢—Sept. 23 +25¢

Illinois

1919—Sept. 8 +10¢—Nov. 21 +25¢—Dec. 22 +25¢
1920—Jan. 12 +25¢—Mar. 1 +25¢—Mar. 10 +25¢

Plymouth

1919—Nov. 21 +20¢—Dec. 22 +25¢
1920—Mar. 1 +20¢—Mar. 3 +25c

MID-CONTINENT

Okla.-Kans.

1919—Nov. 19 +25¢—Dec. 20 +25¢
1920—Jan. 5 +25¢—Feb. 27 +25¢—Mar. 1 +25¢

Healdton

1919—Feb. 21, reduced 25¢—Nov. 21 +15¢—Dec. 19 +65¢—Dec. 22 +25¢
1920—Jan. 8 +25¢—Feb. 27 +25¢—Mar. 3 +25¢

Hewitt

1919—Dec. 2 +40¢—Dec. 22 +25¢
1920—Feb. 27 +25¢—Mar. 1 +25¢

TEXAS FIELDS

Burkburnett

1919—Oct. 1, reduced 25¢—Nov. 22 +25¢—Dec. 20 +25¢
1920—Jan. 5 +25¢—Feb. 27 +25¢—Mar. 1 +25¢

Electra

1919—Nov. 22 +25¢—Dec. 20 +25¢
1920—Jan. 5 +25¢—Feb. 27 +25¢—Mar. 1 +25¢

Corsicana Light

1919—Nov. 21 +25¢—Dec. 18 +25¢—Dec. 23 +25¢
1920—Jan. 6 +25¢—Feb. 27 +25¢—Mar. 1 +25¢

Corsicana Heavy

1919—Feb. 21, reduced 25¢—Nov. 21 +10¢—Dec. 23 +15¢
1920—Jan. 6 +25¢—Feb. 27 +25¢—Mar. 1 +20¢

Strawn

1919—Nov. 21 +25¢—Dec. 23 +25¢—
1920—Jan. 6 +25¢—Feb. 27 +25¢—Mar. 1 +25¢

Moran

1919—Nov. 21 +25¢—Dec. 23 +25¢
1920—Jan. 6 +25¢—Feb. 27 +25¢—Mar. 1 +25¢

Ranger

1919—Nov. 19 +25¢—Dec. 20 +25¢
1920—Jan. 5 +25¢—Feb. 27 +25¢—Mar. 1 +25¢

GULF COAST

Spindletop

1919—Jan. 14, reduced 30¢—Feb. 3, reduced 20¢—Mar. 19, reduced 30¢—Dec. 5 +25¢—Dec. 20 +25¢
1920—Jan. 7 +25¢—Feb. 19 +25¢—Mar. 3 +25¢—Mar. 4 +25¢—Apr. 13 +50¢

Goose Creek

1919—Jan. 14, reduced 30¢—Feb. 3, reduced 25¢—Mar. 19, reduced 25¢—Dec. 5 +25¢—Dec. 20 +25¢
1920—Jan. 7 +25¢—Feb. 19 +25¢—Mar. 3 +25¢—Mar. 4 +25¢—Apr. 13 +50¢

Sour Lake

1919—Jan. 14, reduced 30¢—Feb. 3, reduced 25¢—Mar. 19, reduced 25¢—Dec. 5 +25¢—Dec. 20 +25¢
1920—Jan. 7 +25¢—Feb. 19 +25¢—Mar. 3 +25¢—Mar. 4 +25¢—Apr. 13 +50¢

Humble

1919—Jan. 14, reduced 30¢—Feb. 3, reduced 25¢—Mar. 19, reduced 25¢—Dec. 5 +25¢—Dec. 20 +25¢
1920—Jan. 7 +25¢—Feb. 19 +25¢—Mar. 3 +25¢—Mar. 4 +25¢—Apr. 13 +50c

Batson

1919—Jan. 14, reduced 30¢—Feb. 3, reduced 25¢—Mar. 19, reduced 25¢—Dec. 5 +25¢—Dec. 20 +25¢
1920—Jan. 7 +25¢—Feb. 19 +25¢—Mar. 3 +25¢—Mar. 4 +25¢—Apr. 13 +50¢

Saratoga

1919—Jan. 14, reduced 30¢—Feb. 3, reduced 25¢—Mar. 19, reduced 25¢—Dec. 5 +25¢—Dec. 20 +25¢
1920—Jan. 7 +25¢—Feb. 19 +25¢—Mar. 3 +25¢—Mar. 4 +25¢—Apr. 13 +50¢

Dayton

1919—Jan. 14, reduced 30¢—Feb. 3, reduced 25¢—Mar. 19, reduced 25¢—Dec. 5 +25¢—Dec. 20 +25¢
1920—Jan. 7 +25¢—Feb. 19 +25¢—Mar. 3 +25¢—Mar. 4 +25¢—Apr. 13 +50c

West Columbia

1919—Jan. 14, reduced 30¢—Feb. 3, reduced 25¢—Mar. 19—May 1, reduced 25¢
1920—Jan. 7 +25¢—Feb. 19 +25¢—Mar. 3 +25¢—Mar. 4 +25¢—Apr. 13 +50¢

LOUISIANA FIELDS

Homer

1919—June 7 +10¢—Dec. 3 +25¢
1920—Jan. 6 +25¢—Feb. 28 +25¢

Bull Bayou

1919—Dec. 3 +25¢
1920—Jan. 6 +25¢—Feb. 28 +25¢—Mar. 15 +25¢

Caddo (above 38°

1919—Dec. 3 +25¢—Dec. 22 +25¢
1920—Feb. 28 +25¢—Mar. 15 +25¢

De Soto (above 38°)

1919—Dec. 3 +25¢—Dec. 22 +25¢
1920—Feb. 28 +25¢—Mar. 15 +25¢

Caddo (35° to 37.9°)

1919—Dec. 3 +25¢
1920—Jan. 6 +25¢—Feb. 28 +25¢—Mar. 15 +25¢

Caddo (32° to 34.9°)

1919—Dec. 3 +25¢
1920—Jan. 6 +25¢—Feb. 28 +25¢—Mar. 15 +25¢

Caddo Heavy

1919—Jan. 14, reduced 30¢—Feb. 4, reduced 25¢—Mar. 21, reduced 25¢—Dec. 3 +25¢
1920—Jan. 6 +25¢—Feb. 27 +25¢—Mar. 15 +25¢—May 3 +25¢—May 10 +25¢

Crichton

1919—Dec. 3 +25¢—Dec. 22 +25¢
1920—Jan. 6 +25¢—Mar. 15 +25¢

Pine Island

1919—Feb. 27 +25¢—Dec. 3 +25¢
1920—Jan. 6 +25¢—May 3 +25¢—May 10 +25¢

WYOMING

Elk Basin

1919—Mar. 2 +25¢—Nov. 21 +25¢—Dec. 23 +25¢
1920—Jan. 13 +25¢—Mar. 16 +25c

Grass Cree

1919—Mar. 2 +25¢—Nov. 21 +25¢—Dec. 23 +25¢
1920—Jan. 13 +25¢—Mar. 16 +25¢

Big Muddy

1919—Mar. 2 +25¢—Nov. 21 +25¢—Dec. 23 +25¢
1920—Jan. 13 +25¢—Mar. 16 +25¢

Salt Creek

1919—Mar. 2 +25¢—Nov. 21 +25¢—Dec. 23 +25¢
1920—Jan. 13 +25¢—Mar. 16 +25¢

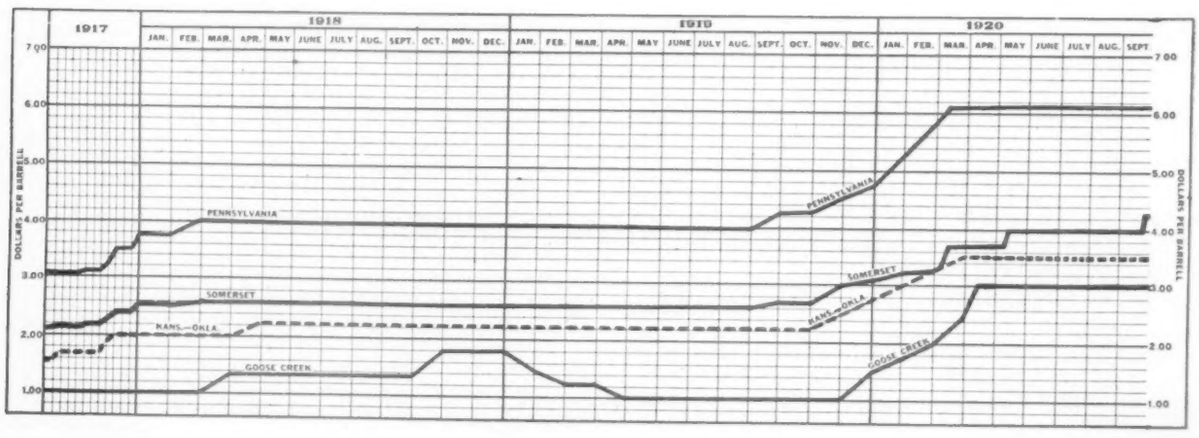
Lance Creek

1919—Mar. 2 +25¢—Nov. 21 +25¢—Dec. 23 +25¢
1920—Jan. 13, 25¢—Mar. 16, 25¢

Rock Creek

1919—Nov. 21 +25¢—Dec. 23 +25¢
1920—Jan. 13 +25¢—Feb. 4 +10¢—Mar. 2 +15¢—Mar. 16 +25¢

Price Trend of Principal Crudes Through September 1920



Crude Oil Prices

EASTERN FIELDS	Oct. 11 1920	Jan. 1 1920	Jan. 1 1919
Pennsylvania	$6.10	$5.00	$4.00
Cabell	4.46	3.27	2.77
Wooster, O.	4.05	3.35	2.58
Corning	4.25	3.35	2.85
Lima	3.73	3.13	2.38
Lodi	4.00	3.13	2.38
Indiana	3.63	3.03	2.28
Princeton	3.77	3.17	2.42
Somerset Light (38 and up)	4.50	3.40	2.60
Somerset	4.25	3.40	2.60
Western Kentucky	3.68	3.08	2.28
Ragland	2.35	1.70	1.25
McKinney	2.60	....	....
Illinois	3.77	3.17	2.42
Plymouth	3.48	2.98	2.33
Canadian Petrolia	4.13	2.78	2.78
MID-CONTINENT			
Kans.-Okla.	$3.50	$2.75	$2.25
Healdton	2.75	2.00	....
Hewitt	3.50	2.75	....
TEXAS FIELDS			
North Texas			
Burkburnett	$3.50	$2.75	$2.25
Electra	3.50	2.75	2.25
Corsicana light	3.50	2.75	2.25
Corsicana heavy	1.75	1.05	1.30
Strawn	3.50	2.75	2.25
Moran	3.50	2.75	2.25
Ranger	3.50	2.75	2.25
Gulf Coast			
Spindletop	$3.00	$1.50	$1.80
Goose Creek	3.00	1.50	1.80
Sour Lake	3.00	1.50	1.80
Humble	3.00	1.50	1.80
Batson	3.00	1.50	1.80
Saratoga	3.00	1.50	1.80
Dayton	3.00	1.50	1.80
West Columbia	3.00	1.25	1.00
LOUISIANA FIELDS			
Homer	$3.25	$2.50	....
Bull Bayou	3.15	2.40	....
Caddo, above 38°	3.50	2.75	$2.25
De Soto, above 38°	3.40	2.65	2.15
Caddo, 35° to 37.9	3.40	2.65	2.15
Caddo, 32° to 34.9	3.35	2.60	2.10
Caddo, heavy	2.50	1.25	1.55
Crichton	3.00	2.25	1.75
WYOMING			
Elk Basin	$3.10	$2.10	$1.85
Grass Creek	3.10	2.10	1.85
Big Muddy	2.75	1.75	1.50
Salt Creek	2.75	1.75	1.50
Lance Creek	3.05	....	....
Rock Creek	2.75	....	....
Wyoming Black	1.75	....	....

CALIFORNIA

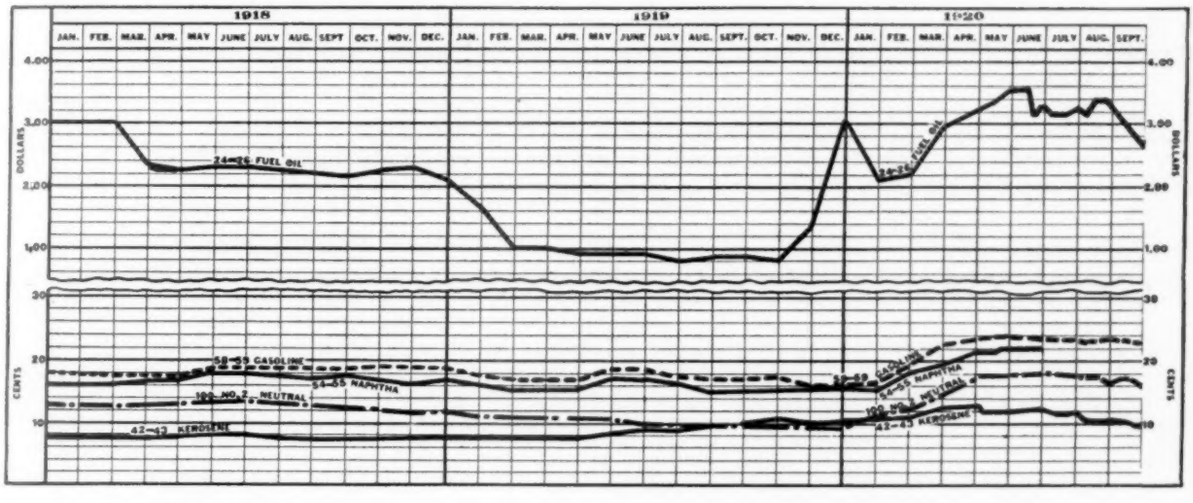
Effective January 30, the Standard Oil Company offered a new price schedule for crude at the well, the new schedule varying widely from the old one in effect since June 10, 1919, and advancing prices for higher gravity crudes very materially over the old figures, and to new record high levels for the California fields.

Effective March 17 the Standard of California advanced all grades in oil fields 25 cents a barrel over prices announced Jan. 30. Effective July 10 the Standard advanced all grades in all fields 12 cents a barrel. Prices Oct. 11 are as follows:

SAN JOAQUIN VALLEY AND WHITTIER-FULLERTON FIELDS

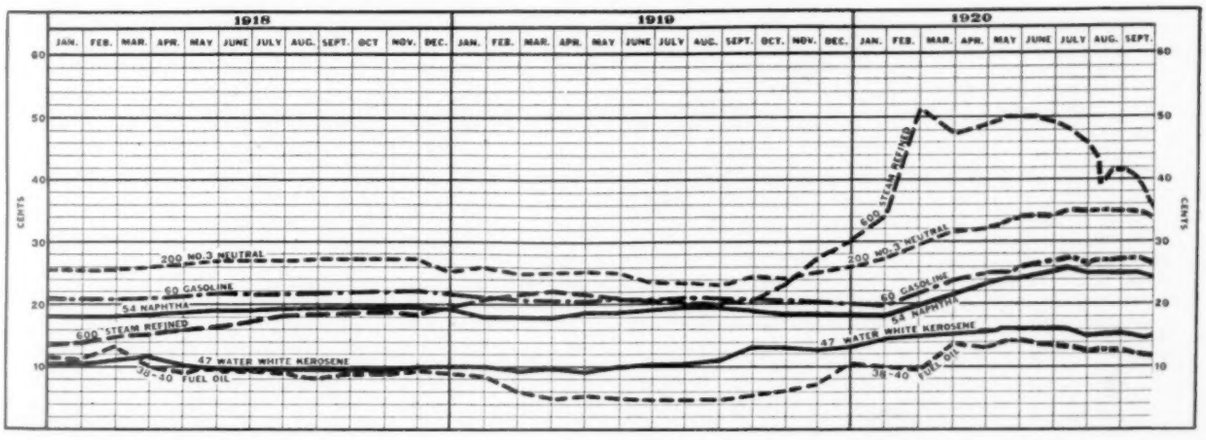
41 deg. to and including 17.9	$1.60 bbl.
18 deg. to and including 18.9	1.61 bbl.
19 deg. to and including 19.9	1.63 bbl.
20 deg. to and including 20.9	1.66 bbl.
21 deg. to and including 21.9	1.70 bbl.
22 deg. to and including 22.9	1.75 bbl.
23 deg. to and including 23.9	1.81 bbl.
24 deg. to and including 24.9	1.88 bbl.
25 deg. to and including 25.9	1.96 bbl.
26 deg. to and including 26.9	2.05 bbl.
27 deg. to and including 27.9	2.15 bbl.
28 deg. to and including 28.9	2.25 bbl.
29 deg. to and including 29.9	2.35 bbl.
30 deg. to and including 30.9	2.45 bbl.
31 deg. to and including 31.9	2.55 bbl.
32 deg. to and including 32.9	2.65 bbl.
33 deg. to and including 33.9	2.75 bbl.
34 deg. to and including 34.9	2.85 bbl.
35 deg. to and above	2.95 bbl.

Refinery Prices at Oklahoma Plants Through September, 1920



*Quotation of 54-55 Naphtha is discontinued because little is available due to the deeper gasoline cut being made by refineries.

Refinery Prices at Pennsylvania Plants Through September, 1920



OIL FINANCE

Bond Buying Active, Stocks Sluggish

INTEREST was centered during the week upon railroad issues, and trading in oils lagged in consequence. Not that there was anything approaching a stiff market for rails, quite the contrary, the reaction continuing from day to day and affecting the best of stocks. Indeed, the whole list, from rails down, moved with a high degree of irregularity, and under pressure many issues fell to new low levels. Impetus was given to these declines by much short-selling. On the other hand, the bond market seemed to be coming once more into its own. The quick oversubscription of the Grand Trunk $25,000,000 20-year 7 per cents, followed by much institutional buying and individual, investment was the most impressive feature of the financial market. Whether this new movement was the result of the accompaniment of relaxing commodity prices and the lessening of speculation, it marked a significant turn of affairs after many months of waiting. The surplus of funds awaiting investment in bonds is said to be unusually large, and the normal accumulation of such funds has been greatly swollen by the money released thru the approaching French loan maturity, amounting to $250,000,000.

Oil Issues Sluggish and Irregular

Little of interest, and nothing sensational, occurred in the movement of oil shares. Houston Oil, which made a spurt to 112 a couple of weeks ago, got down to 106. Mexican Petroleum rose to 190 or more but ended the week at 186¾. Middle States Oil developed a little more strength than in the week previous. Pierce Oil made gains of 2 or 3 points in the week's trading. Standard Oil of New Jersey showed a decline to 615, but regained ground in later transactions. Texas Company won back the ground lost in the secondary break of last week. The new stock of International hung around 16. Simms Petroleum fell to within a fraction of its low price for 1920. White Oil maintained its previous record for steadiness and made a slight gain.

Recent Charters, Earnings, Issues, Statements, Briefly Told

Boone Oil Company.—Foreclosure proceedings on notes for $1,085,000 are reported to have been instituted in the district court at Shreveport by the Boone Oil Company against F. J. Quinby and the Ansonia Oil Company and writs of attachments issued for the provisional seizure of a large extent of acreage in the Pine Island, Caddo parish, sold the defendant company by the Boone Oil Company July 15, 1919, and which it is alleged the defendant company had defaulted in payment. The sale price of the 11 leases covered by the act of sale was $1,255,000, of which $100,000 was paid in cash, the balance in notes of $50,000 and a final note of $55,000. The judgment asked for in the petition is for $1,105,000, less a credit of $20,000, or $1,085,000. Some of the best known leases in the Pine Island district on which there are numerous producing wells, are named as those included in the transfer.

Marland-Kay Merger.—On the proposed basis of exchange of stock, 850,000 no-par-value shares of the stock of the consolidated company will be required to take up the 4,929,344 shares of Marland outstanding August 31, 1920, par $5, and 6,924,028 shares of Key County Gas, par $1.

Tuxpam Star Oil Corp.—Federal indictments for fraud in using the mails in connection with the financing of this company have been returned in New York against James O'Brien, George F. Breen and Frank J. Smith, of J. F. Brien & Company, 35 Broad street; Alexander Low, of Low Brothers, 44 Broad street, and S. S. Campbell and Nathaniel D. McCaffrey, of S. S. Campbell & Company, 20 Broad street.

U. S. Mex. Oil Corp.—Incorporated in Delaware in October, 1919, with $25,000,000 authorized capital, with holdings of 44,187 acres in Mexico, Oklahoma, Kansas, Texas, Louisiana and New Mexico, is offering $2,500,000 one-year 8 per cent collateral trust gold notes, redeemable at 102½.

Tide Water Oil.—The Tidal Gasoline Company, a subsidiary of the Tide Water Oil Company, has purchased from the Western Oil Corporation a one-half interest in the latter's gasoline plant in Burkburnett, a half interest in a casinghead gasoline plant in the northwestern extension of the field, and 35 acres of producing territory in the Waggoner field. The consideration was $2,000,000.

Producers & Refiners.—July net earnings were at the rate of practically $5,000,000 per annum. Gross income for the month was $663,409, and the net income was $412,468, both being the largest in the history of the company. This was a gain of $373,478 in gross income and $333,675 in net income as compared with the record of July, 1919, when the gross income was $289,931, and the net income $78,793, or an increase of 423 per cent in July this year over July of last year.

Penn. Oil & Refining.—Stockholders voted September 30 to increase the capital stock from $35,000 to $100,000, of which $60,000 will be paid in. Francis E. Miller, late of the export department of Biery Oil Company, becomes manager of the traffic department of Pennsylvania Refining.

Oil Dividends

Company	Amount or Per Cent	When Paid or Payable
Associated Oil (quar.)	1½	Oct. 25
Barnsdall Corp., Class A, B (quar.)	$ .62½	Oct. 30
Cities Serv. com. & pfd. (mon.)	½	Nov. 1
Com., payable in com. stk.	1¼	Nov. 1
Preferred B (mon.)	½	Nov. 1
Gen. Amer. Tank, pfd. (quar.)	1¾	Oct. 1
Indiahoma Refg. (quar.)	3	Sept. 30
National Oil, pfd. (quar.)	2	Oct. 15
Prairie Oil & Gas (quar.)	3	Oct. 30
Extra	5	Oct. 30
Prairie Pipe Line (quar.)	3	Oct. 30
Savoy Oil (quar.)	3	Sept. 28
Sterling Oil	.10	Oct. 5
Tide Water Oil (quar.)	4	Sept. 30
White Eagle Oil (quar.)	.50	Oct. 10
Atlantic Refining, com (quar.)	5	Sept. 15
Ctes Serv. Bkrs. (mon.)	$ .42	Sept. 1
Com. and Pfd. (mon.)	½	Oct. 1
Com. (pay. in com. stk.)	1¼	Oct. 1
Pfd. B. (mon.)	½	Oct. 1
Cosden & Co., pfd. (quar.)	1¾	Sept. 1
Crescent Pipe Line pfd. (quar.)	.75	Sept. 15
Dminion Oil (mon.)	1	Sept. 1
Guffey-Gillespie Oil pfd (¼)	1¾	Sept. 15
Indian Refg. com. (quar.)	5	Sept. 15
do. pfd. (quar.)	1¾	Sept. 15
Imperial Oil, Ltd	$0.75	Aug. 3
Invader Oil & Rfg. (mon.)	1	Sept. 1
do. Extra	1	Sept. 1
Little Sioux Oil	3	Aug. 20
National Refg. com. (quar.)	4	Aug. 15
N. Eng. Fuel Oil	5	Aug. 16
Sinclair Consol., pfd. (No. 1)	2.00	.....
Standard Oil, Kan. (quar.)	3	Sept. 15
do. Extra	3	Sept. 15
Standard Oil, N. Y. (quar.)	4	Sept. 15
Standard Oil, Ind. (quar.)	3	Sept. 15
do. Extra	5	Sept. 15
Ohio Oil (quar.)	1.25	Sept. 30
Extra	4.75	Sept. 30
Spencer Petrol. com. (mon.)	2	Aug. 25
Stand. Oil. N. J. com. (quar.)	5	Sept. 15
Pfd (quar.)	1¾	Sept. 15
Stand. Oil. N. Y. (quar.)	4	Sept. 15
Stk. dividend	200	.....
Superior Oil (quar.)	.30	Sept. 1
Texas Chief Oil (mon.)	1½	Sept. 1
Texas Co. (quar.)	3	Sept 30
Valvoline Oil. com. (quar.)	2½	Sept. 15
Acme Petroleum (quar.)	3	Oct. 1
Preferred (quar.)	2	Oct. 1
Arkansas Natural Gas (¼)	.20	Oct. 1
Extra	.30	Oct. 1
Cosden & Co., com. (quar.)	.62½	Nov. 1
Dunn Petroleum (stk. div.)	100	Oct. 1
Eureka Pipe Line	3.00	Nov. 1

Ohio Fuel Supply (quar.)	.62½	Oct. 15
Extra (Lib. bds.)	.50	Oct. 15
Okla. Natural Gas (quar.)	.62½	Oct. 20
Panhandle P. & R. (quar.)	2	Oct. 1
Stand. Tank Car, pfd. (quar.)	2	Oct. 1
Union Nat. Gas (quar.)	2½	Oct. 1
U. S. Oil, com. (quar.)	2½	Nov. 1

Simms Petroleum Co. Showing Better In 1920

The disappointments of the past year's operations are frankly set forth by President E. F. Simms, of the Simms Petroleum Company, Inc., in his annual report dated June 2, 1920, as well as the encouraging character of the present situation. With the prospect at one time of tremendous production in the deep sand of the Homer field, reflected in the advance of Simms stock to 73½, plans were made to build an eight-inch pipe line, approximately 300 miles in length, from the Homer field to a point on the Mississippi river in the vicinity of New Orleans. The material was purchased, the right of way secured, and considerable work done towards its construction, when the rapid decline in the deep sand production decided the directors to discontinue the line and turn their attention to more intensive development of the properties.

While the 2,000-foot sand in the Homer field has fallen short of its early promise, the shallow sands in that territory are being successfully worked, says Mr. Simms, and there is still to be developed the Woodbine sand, which geologists think likely to be found underlying this field. Meanwhile, work is being pursued at various other points in Louisiana, in Oklahoma, and in the coastal plain.

Shortly before the first of the year, the company acquired a substantial stock interest in the Milliken refinery at Arkansas City, Kansas, and controls a favorable lease of the plant. During the first four months of the year the company has refined approximately 255,000 barrels of crude oil which it has marketed to advantage and now has on hand a valuable stock of refined products.

The company owns 24 steel tanks of 55,000-barrel capacity each, in addition to 14 erected on Sibley and Homer tank farms; 192 miles of eight-inch pipe line, and 479 steel tank cars of 10,000-gallon capacity each, as well as a large amount of material and supplies. Its consolidated balance sheet (including the Simms Oil Company) as at April 30, 1920, was as follows:

Assets

Current Assets:	
Cash	$ 4,097,802
Due from agents	59,191
Bills and accounts receivable	1,374,101
Oil in storage	65,204
Storehouse supplies	629,195
	$ 6,225,493
Investments in associated companies	2,270,691
Fixed assets:	
Oil leases and equipment	15,560,279
Advances on contracts	775,819
	$16,336,098
Organization and financing expense	1,045,662
Unadjusted debits	331,045
Deficit in operations	93,829
	$26,302,817

Liabilities

Current liabilities:	
Bills payable—trade	$ 94,000
Accounts payable	496,919
	$ 590,919
Unadjusted credits	242,568
Capital stock:	
728,540 shares of no par value	25,468,630
Directors' shares, Simms Oil Co.	700
	$26,302,817

There is in addition a contingent liability of $2,238,000, payments due out of oil properties.

The Simms Petroleum Company as first organized, in 1919, had undeveloped leaseholds of approximately 424,000 acres situated in 19 different counties in Texas. At the end of the first year's operations the company had increased its ownership of leaseholds and fee holdings to 560,000 acres. During the current year 34 wells have been completed on its properties or controlled thru its subsidiaries in Texas and Louisiana, and the combined companies have in process of drilling three wells in Texas, 23 in Louisiana and one well in Oklahoma. Out of the total number of wells drilled during the first year's operations, 28 wells were successful and six non-producing. The several wells drilled in the northwest Texas field up to the present have resulted in no favorable development.

$6,618,968 Of Debits Paid By Pierce Oil Corp.

For the eight months ended August 31, 1920, Pierce Oil Corporation reports net profits after depletion, depreciation and federal taxes, $2,982,392, equivalent, after preferred dividends, to $2.35 a share (par $25) earned on the $23,168,658 common stock, as compared with net profits of $2,039,097, or $1.83 a share, on the common in the corresponding period of 1919. Consolidated balance sheet showed: Cash, $704,826; notes and accounts receivable, $5,116,303, comparing with $3,697,968 on December 31 last; inventories, $12,747,124, an increase of $2,534,161; tank steamers and barges, $1,475,327; tank cars, $2,524,986; stable and garage equipment, $699,632; iron barrels and drums, $381,485; drilling tools and equipment, $168,656; advances, $1,142,625, a new item; prepaid insurance, interest, etc., $596,602; miscellaneous investments, $314,865; cash deposits, none, compared with $6,092,216 at the first of the year; oil lands, leaseholds, etc., $23,026,244; real estate, plant, equipment, etc., $10,347,275; total, $59,245,950.

Preferred stock outstanding continued at $15,000,000; common stock, $23,168,650, an increase of $1,190,200; funded debt, none, compared with $5,933,448 at the end of 1919; notes payable, $2,885,926; accounts payable and accrued interest, $2,885,926; federal tax reserve, $639,912; steamship obligations, none, compared with $685,520 December 31; surplus, $13,194,942, an increase of $1,673,193. A decrease of assets amounting to $152,304 is shown as between August 31, 1920, and December 31, 1919.

Empire Gas & Fuel Company Reports Assets Of $336,310,048

As a producing oil and gas subsidiary of the Cities Service Company, operating in Kansas and Oklahoma, the Empire Gas & Fuel Company (Delaware) controls the following subsidiaries: Empire Gas & Fuel Company of California, 59 Osage Oil Company, Indian Territory Illuminating Oil Company, Keesage Oil Company, Midland Oil Company, Steyne Oil Company, Quawpaw Gas Company, Wichita Natural Gas Company and Wichita Pipe Line Company. As will be seen by the statement below, as of December 31, 1919, it constitutes one of the most important of the Cities Service group:

Assets

Capital Assets:		
Plant and Investment		$149,722,792.32
Treasury Bonds		131,226,000.00
Bonds Reserved for Retirement of Underlying Issues		18,774,000.00
Sinking Fund		207.59
		$299,722,999.91
Current Assets:		
U. S. Bonds and Securities Owned	$ 275,327.73	
Stores and Supplies	5,294,728.23	
Crude and Refined Oils	9,245,402.50	
Accounts Receivable	3,947,106.65	
Notes and Acceptances Receivable	1,887,096.49	
Cash	4,109,382.49	
	$ 24,759,044.09	
Other Assets:		
H. L. Doherty & Company, Fiscal Agents	$ 5,272,032.60	
Due from Affiliated Companies	1,826,880.08	
Expenses Paid in Advance	2,881,242.09	
Stock, Bond and Note Discount	1,847,846.39	
Securities Pledged as Collateral	2.00	
Securities Held in Treasury	1.00	
	$ 11,828,004.16	
Total		$336,310,048.16

Of the total assets of $336,310,048, current assets amounted to $24,739,044, of which $4,109,382 was cash. Against this were current liabilities of $15,894,788. Underlying bonds outstanding, first mortgage refunding bonds and sinking fund convertible notes totaled $189,355,200. Capital stock outstanding was $80,230,600, of which $17,547,500 was preferred. Surplus, including reserves and parent company fees, was $46,199,998.

Gross earnings of Empire Gas & Fuel Company for the twelve months ended May 31, 1920, were $60,428,608, and after deduction of operating expenses and fixed charges, the amount available for dividends was $13,431,845.

Liabilities

Capital Liabilities:		
Common Stock		$ 62,500,000.00
Preferred Stock		17,730,600.00
Underlying Bonds Authorized	$24,000,000.00	
Less Retired	6,452,500.00	$ 17,547,500.00
First Mortgage Refdg. Bds.		$150,000,000.00
Sinking Fd. Conv. 6% Notes		21,807,700.00
		$269,585,800.00
Indian Territory Illuminating Oil Company and Keesage Oil Co. Minority Stockholders' Int.		2,628,173.00
Current Liabilities:		
Notes and Acceptances Payable to Bankers		$ 6,412,500.00
To Others		3,234,618.50
Notes and Acceptances Discounted		1,153,813.11
Accounts Payable		2,406,660.31
Customers Deposits		94,774.08
Accrued Accounts—Taxes and Int.		2,592,421.56
		$ 15,894,787.56
Other Liabilities:		
Special Tax Reserve		$ 1,959,286.56
Lease Bonus Payable		42,000.00
Securities Borrowed		2.00
Securities Received as Collat.		1.00
		2,001,289.56
Surplus, Including Reserves and Parent Company Fees		46,199,998.04
Total		$336,310,048.16

How Oil Shares Moved Last Week

NEW YORK STOCK EXCHANGE

	Par Value	High 1920	Low 1920	Week's Sales	Price Oct. 2	Week's High	Week's Low	Price Oct. 8	Week's Gain or Loss
Caddo Oil & Refg.	$100	28¼	12	2,600	15½	16⅞	15½	15⅜	—⅛
California Petroleum	100	46	22¼	1,600	.....	27½	26	25½	.....
Cosden & Co.	No par	43⅜	30	1,400	37½	37½	36¾	36¾	—¾
Houston Oil	100	110⅜	75	6,300	106	108⅜	104½	105	—1
Invincible Oil & Refg.	50	47¼	30¼	44,500	35	35½	28⅛	30⅜	—4⅝
Island Oil & Tr.	10	7⅛	5¼	18,200	6¼	6⅜	6	6⅛	—⅛
Mex. Petroleum	100	222	148	85,600	**187¼	190⅞	183½	186¾	—½
Middle States Oil	10	71¾	10¼	38,400	15¾	16⅝	14¾	14⅞	—¾
Okla. Prod. & Refg.	5	5¾	3⅝	5,800	4	4⅛	4	4⅛	+⅛
Pan.-Amer. Petroleum	50	116⅜	71¾	57,200	(a) 89	90⅜	87⅜	88½	—½
Phillips Petroleum	No par	44½	32½	2,100	.....	37	35	35½	.....
Pierce Oil Corp.	25	23¼	11	6,800	13⅜	15	13⅜	14	+⅝
Pure Oil Co.	25	42⅞	36	6,000	38¼	39⅜	38	39⅜	+1⅛
Royal Dutch, N. Y.	13.40	123⅜	69⅝	17,600	87¾	87¾	81½	82½	—5⅝
Shell Transport	£2	90¼	45⅝	3,200	x53	53⅛	51	51¼	—1⅝
Sinclair Consol.	No par	48¾	23⅛	36,100	32½	33	31⅜	31½	—1
Standard Oil, N. J.	100	850	600	Odd lots	625	628	615	627	+2
do. pfd.	100	113⅜	100⅜	6,300	105¼	105¼	104⅞	105	—¼
Texas Company (new)	25	**57¾	40¼	109,600	49⅝	52	48¾	49⅝	.....
Texas Pac. C. & O.	10	53⅜	33	14,500	.....	38¾	31	+33	.....
Transcontinental Oil	No par	38¾	9⅛	11,000	12	12⅛	11¾	11⅜	—¼
Union Oil	No par	38	25¾	4,400	27⅜	27¾	26¾	27	—⅜

**Reduced to basis of $25 par. *Ex-rights.
(a) Ex-dividend 5% Class B Stock.
†New low.

NEW YORK CURB MARKET

Cities Serv. Bkrs.	No par	44⅛	29½	2,400	34½	34⅝	34⅛	34⅛	—⅜
Elk Basin	5	11¼	6½	1,500	8¾	8¾	8½	.....	.....
Federal Oil	5	4¼	2	9,000	2¼	2¾	2¼	2⅜	—⅛
Glenrock Oil	10	4¾	1⅜	5,400	2	2	1⅞	2	.....
Guffey-Gillespie	No par	39¼	25¾	2,400	.....	32	30¾	31½	.....
Intern. Petroleum	5	77	27	4,000	(b) 16½	16¾	16	16	—½
Merritt Oil	10	22⅛	10¾	2,000	14	14¾	13¾	14⅝	+⅝
Midwest Refg.	10	190	128	1,800	150	152	148	151	+1
N. Am. O. & R.	5	5⅜	2	2,300	3⅜	3¾	3⅜	3⅜	.....
Pennok Oil	10	9½	5	300	.....	7	6½	7	.....
Prodrs. & Refrs.	10	10½	5⅛	4,300	6⅛	6¼	6	.....	.....
Sapulpa Refg.	5	7¼	4⅝	1,100	.....	5⅞	5⅝	.....	.....
Salt Creek Prod.	25	56	29½	1,000	30¼	31	29½	.....	.....
Simms Petroleum	No par	73½	9⅝	30,200	12⅛	12¾	9⅞	10	—2⅛
White Oil	No par	50	16	11,500	22¾	23⅛	22¼	22½	—¼

(b) New stock.

PITTSBURGH STOCK EXCHANGE

Arkansas Nat. Gas.	10	45	9½	3,915	10	11	10½	10⅝	+⅛
Barnsdall Cor. A	25	50	36	120	41	41	41	41	.....
Barnsdall Corp. B.	25	46	35	225	38	38	38	38	.....
Guffey-Gillespie Oil	No par	40	25½	3,750	31	32	30⅜	32	+1
Kay County Gas	1	2½	1½	7,316	2	2	1⅞	1⅞	—⅛
Lone Star Gas	25	45½	25	605	30	30	29⅝	30	.....
Man. Light & Heat	50	61¾	48½	445	53	53½	52¾	53½	+½
Marland Refining	5	6½	4	6,986	4	4⅛	4	4	.....
Ohio Fuel Oil	1	34⅞	21	264	25	26	25	26	+1
Ohio Fuel Supply	25	55	44	609	47¾	48¼	47½	47½	—¼
Oklahoma Nat. Gas	25	43	29⅞	510	32	32	31	32	.....
Oklahoma Prod. & Refg.	5	6½	3⅜	.....	4	No sales reported			
Pittsburgh Oil & Gas	5	16	10	10	12¾	12⅝	12⅝	12⅝	—⅛
Paragon Refg.	25	27⅜	26	570	26¼	27⅜	26½	27⅜	+1⅛
Union Nat. Gas.	100	130	117	.....	120	No sales reported.			
Middle State Oil	10	18½	15¾	800	15¾	16½	16¼	16½	+¾
Transcontinental Oil	No par	37⅝	9⅞	320	12¼	11½	11½	11½	—¾

PITTSBURGH CURB MARKET

Allied Oil	1	1.25	.20	500	.24	.20	.20	.20	—.04
Atlantic Petroleum	5	4	3¼	No sales reported					
Boston-Wyoming	1	1.25	.62	100	1	1	1	1	.....
Columbia Syndicate	10	11	6	No sales reported					
Duquesne Oil	5	7½	2¾	920	2⅞	3	2⅞	2⅞	.....
Homer Union Pet.	1	1.25	.15	3,800	.16	.18	.17	.17	+.01
Illinois Pipe Line	100	162	162	100	.....	162	162	162	.....
Guli Oil Cor.	100	475	400	No sales reported					
Marshall Oil	10	13½	9	.....	11¾	No sales reported			
Mexico-Wyoming	1	1.45	.49	200	.50	.52	.52	.52	+.02
Mountain & Gulf	1	1.40	.90	No sales reported					
Omar Oil & Gas	10	7½	3	200	3	3	3	3	.....
States Oil	5	160	100	No sales reported					
Salt Creek Consol.	10	21	12	425	11⅞	13	12	13	+1⅛
Tropical Oil	25	23	16½	No sales reported					
Twin City Oil	1	.30	.08	20,936	.09	.10	.08	.10	+.01

Standard Oil Stocks

Standard Oil securities are dealt with to only a small extent on the New York curb market, the great majority of sales being made over the counters of investment bankers. For this reason no record can be obtained of the total volume of sales from day to day to indicate the activity of any particular stock. Below are bid and asked quotations prevailing on the curb market at the close of business on the date given, the same quotations prevailing in the majority of unrecorded transactions:

STANDARD OIL GROUP

	Oct. 8 Bid	Oct. 8 Asked	1920 High	1920 Low
Anglo-American	21	22	31	19
Atlantic Refg.	†1050	1150	1650	1050
Buckeye Pipe	88	92	102	84
Continental Oil	105	115	(b)575	530
Galena-Signal	43	48	97	40
Illinois Pipe	160	165	178	100
Ohio Oil	295	305	395	270
Penn.-Mex.	49	52	74	38
Prairie Oil & Gas.	545	555	690	520
Prairie Pipe	220	225	280	188
South Penn.	268	273	345	260
S. O. California	314	318	338	297
S. O. Indiana	705	710	760	640
S. O. Kansas	510	530	750	500
S. O. Kentucky	380	390	485	325
S. O. New York	370	375	460	280
S. O. Ohio	400	420	560	400
Union Tank Line	112	117	115½	103
Vacuum Oil	348	353	435	330

(b) Before stock dividend. †New low.

UNLISTED SECURITIES

By Carl H. Pforzheimer & Co.

	Par Value	Oct. 8 Bid	Oct. 8 Asked	1920 High	1920 Low
Gulf Oil Corp.	$100	415	425	550	394
Humble Oil & Refg.	100	†225	235	323	225
Magnolia Pet.	100	320	340	450	315

†New low.

MISCELLANEOUS STOCKS

The following are bid and asked prices ruling at the close of business on the date given, on the stock markets indicated by reference marks, with high and low levels reached so far this year:

	Par Value	Oct. 8 Bid	Oct. 8 Asked	1920 High	1920 Low
Cities Serv. (a)	$100	300	302	...	...
do. pfd. (a)	100	65½	65¾	74	64
Nat. Refg. (a)	100	230	235	*410	355
do. pfd. (a)	100	...	120	126	97
Paragon Refg. (a)	25	27¾	...	27½	25
do. pfd. (a)	100	...	96½	100½	100

*Before stock dividend. (a) Cleveland.